



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5 CHICAGO REGIONAL LABORATORY  
536 SOUTH CLARK STREET  
CHICAGO, ILLINOIS 60605

**Date:** 5/2/2019

**Subject:** Review of Region 5 Data for R06 Deer Park PFAS

**To:** Region 6, US EPA  
10625 Fallstone Road  
Houston, TX 77099

**From:** Danielle Kleinmaier, Chemist  
US EPA Region 5 Chicago Regional Laboratory

The data transmitted under this cover memo successfully passed CRL's data review procedures as documented in the current Quality Management Plan and applicable Standard Operating Procedures. In accordance with the EPA QA/G-8 *Guidance on Environmental Data Verification and Data Validation* and the U.S. EPA Region 5 RMD QMP, CRL performs data verification on all the data generated internally. CRL does not perform data validation or quality assessment procedures.

This report was reviewed and the information provided herein accurately represents the analysis performed.

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*Please contact the analyst with any technical report issues, Amanda Wroble at (312)-353-0375 for sample project concerns, and Sylvia Griffin at (312)-353-9073 with data transmittal questions. Thank you.*

**Attached are Results for: R06 Deer Park PFAS**

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**Analyses included in this report:**

OSRTI PFC

Report Name: 1905002 PFC DRAFT May 02 19 1652



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Accredited Analyses included in this Report**



**Method:** \*\*\* *DEFAULT SPECIFIC METHOD* \*\*\* in Water

**Analysis:** *OSRTI PFC*

Analyte	Certifications
perfluorobutanoate	ISO/IEC 17025:2005
perfluoropentanoate	ISO/IEC 17025:2005
perfluorohexanoate	ISO/IEC 17025:2005
perfluoroheptanoate	ISO/IEC 17025:2005
perfluorooctanoate	ISO/IEC 17025:2005
perfluorononanoate	ISO/IEC 17025:2005
perfluorodecanoate	ISO/IEC 17025:2005
perfluoroundecanoate	ISO/IEC 17025:2005
perfluorododecanoate	ISO/IEC 17025:2005
perfluorotridecanoate	ISO/IEC 17025:2005
perfluorotetradecanoate	ISO/IEC 17025:2005
perfluorobutyl sulfonate	ISO/IEC 17025:2005
perfluorohexyl sulfonate	ISO/IEC 17025:2005
perfluorooctyl sulfonate	ISO/IEC 17025:2005
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	ISO/IEC 17025:2005
perfluoro-1-pentanesulfonate (PFPeS)	ISO/IEC 17025:2005
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	ISO/IEC 17025:2005
perfluoro-1-heptanesulfonate (PFHpS)	ISO/IEC 17025:2005
perfluoro-1-octanesulfonamide (FOSA)	ISO/IEC 17025:2005
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	ISO/IEC 17025:2005
perfluoro-1-nonanesulfonate (PFNS)	ISO/IEC 17025:2005
N-MeFOSAA	ISO/IEC 17025:2005
N-EtFOSAA	ISO/IEC 17025:2005
perfluoro-1-decanesulfonate (PFDS)	ISO/IEC 17025:2005



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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

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Analytes not listed above are not accredited by ANAB.



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

## WORK ORDER

Printed: 5/2/2019 10:07:25AM

1905002

## US EPA Region 5 Chicago Regional Laboratory

Client: **Region 6, US EPA**  
Project: **R06 Deer Park PFAS**

Project Manager: **Angela Ockrassa Davis**  
Project Number: **[none]**

### Report To:

Matthew Loesel  
Region 6, US EPA

10625 Fallstone Road  
Houston, TX 77099

Phone: (214) 665-9544  
Fax: (281) 983-2248

Date Due: May-30-19 15:00 (30 day TAT)

Received By: Robert Snyder

Logged In By: Robert Snyder

Date Received: Apr-30-19 09:00

Date Logged In: May-01-19 12:42

Samples Received at: 1.7 °C  
Sample tags/labels: Yes  
Seals Intact: Yes  
Received on ice: Yes  
Paperwork Included: Yes

Work Order Comments:  
Copy/Relog from 1904037.

Sample ID: 1905002-01 Sampled: Apr-26-19 08:45 Matrix: Water

Sample Name: ITC-BB-01-20190426-11 Sample Location/Comments: BB-01

### Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-24-19 08:45	

Sample ID: 1905002-02 Sampled: Apr-26-19 11:15 Matrix: Water

Sample Name: ITC-BB-01-20190426-15 Sample Location/Comments: Field QC

### Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-24-19 11:15	

Sample ID: 1905002-03 Sampled: Apr-27-19 09:15 Matrix: Water

Sample Name: ITC-BB-01-20190427-11 Sample Location/Comments: BB-01

### Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-25-19 09:15	

1905002

## US EPA Region 5 Chicago Regional Laboratory

Client: **Region 6, US EPA**  
Project: **R06 Deer Park PFAS**

Project Manager: **Angela Ockrassa Davis**  
Project Number: **[none]**

Sample ID: [1905002-04](#)      Sampled: [Apr-28-19 08:40](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-01-20190428-11](#)      Sample Location/Comments: [BB-01](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-26-19 08:40	

Sample ID: [1905002-05](#)      Sampled: [Apr-29-19 08:30](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-01-20190429-11](#)      Sample Location/Comments: [BB-01](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-27-19 08:30	

Sample ID: [1905002-06](#)      Sampled: [Apr-26-19 08:55](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-02-20190426-11](#)      Sample Location/Comments: [BB-02](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-24-19 08:55	

Sample ID: [1905002-07](#)      Sampled: [Apr-26-19 08:55](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-02-20190426-12](#)      Sample Location/Comments: [BB-02](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-24-19 08:55	

Sample ID: [1905002-08](#)      Sampled: [Apr-27-19 09:30](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-02-20190427-11](#)      Sample Location/Comments: [BB-02](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-25-19 09:30	

## WORK ORDER

Printed: 5/2/2019 10:07:25AM

1905002

## US EPA Region 5 Chicago Regional Laboratory

Client: Region 6, US EPA  
Project: R06 Deer Park PFAS

Project Manager: Angela Ockrassa Davis  
Project Number: [none]

Sample ID: [1905002-09](#)      Sampled: [Apr-28-19 08:55](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-02-20190428-11](#)      Sample Location/Comments: [BB-02](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-26-19 08:55	

Sample ID: [1905002-10](#)      Sampled: [Apr-29-19 08:40](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-02-20190429-11](#)      Sample Location/Comments: [BB-02](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-27-19 08:40	

Sample ID: [1905002-11](#)      Sampled: [Apr-29-19 11:15](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-02-20190429-15](#)      Sample Location/Comments: [FieldQC](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-27-19 11:15	

Sample ID: [1905002-12](#)      Sampled: [Apr-26-19 09:10](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-03-20190426-11](#)      Sample Location/Comments: [BB-03](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-24-19 09:10	

Sample ID: [1905002-13](#)      Sampled: [Apr-27-19 09:40](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-03-20190427-11](#)      Sample Location/Comments: [BB-03](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-25-19 09:40	

1905002

## US EPA Region 5 Chicago Regional Laboratory

Client: Region 6, US EPA  
Project: R06 Deer Park PFAS

Project Manager: Angela Ockrassa Davis  
Project Number: [none]

Sample ID: [1905002-14](#)      Sampled: [Apr-27-19 09:40](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-03-20190427-12](#)      Sample Location/Comments: [BB-03](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-25-19 09:40	

Sample ID: [1905002-15](#)      Sampled: [Apr-28-19 09:05](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-03-20190428-11](#)      Sample Location/Comments: [BB-03](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-26-19 09:05	

Sample ID: [1905002-16](#)      Sampled: [Apr-28-19 11:00](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-03-20190428-15](#)      Sample Location/Comments: [FieldQC](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-26-19 11:00	

Sample ID: [1905002-17](#)      Sampled: [Apr-29-19 08:50](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-03-20190429-11](#)      Sample Location/Comments: [BB-03](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-27-19 08:50	

Sample ID: [1905002-18](#)      Sampled: [Apr-26-19 09:25](#)      Matrix: [Water](#)      [OC Source Sample](#)

Sample Name: [ITC-BB-05-20190426-11](#)      Sample Location/Comments: [BB-05](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-24-19 09:25	

1905002

## US EPA Region 5 Chicago Regional Laboratory

Client: Region 6, US EPA  
Project: R06 Deer Park PFAS

Project Manager: Angela Ockrassa Davis  
Project Number: [none]

Sample ID: [1905002-19](#)      Sampled: [Apr-27-19 09:55](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-05-20190427-11](#)      Sample Location/Comments: [BB-05](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-25-19 09:55	

Sample ID: [1905002-20](#)      Sampled: [Apr-28-19 09:20](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-05-20190428-11](#)      Sample Location/Comments: [BB-05](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-26-19 09:20	

Sample ID: [1905002-21](#)      Sampled: [Apr-28-19 09:20](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-05-20190428-12](#)      Sample Location/Comments: [BB-05](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-26-19 09:20	

Sample ID: [1905002-22](#)      Sampled: [Apr-29-19 09:05](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-05-20190429-11](#)      Sample Location/Comments: [BB-05](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-27-19 09:05	

Sample ID: [1905002-23](#)      Sampled: [Apr-26-19 10:30](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-07-20190426-11](#)      Sample Location/Comments: [BB-07](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-24-19 10:30	



1905002

## US EPA Region 5 Chicago Regional Laboratory

Client: Region 6, US EPA  
Project: R06 Deer Park PFAS

Project Manager: Angela Ockrassa Davis  
Project Number: [none]

Sample ID: [1905002-24](#)      Sampled: [Apr-27-19 10:30](#)      Matrix: [Water](#)      [OC Source Sample](#)

Sample Name: [ITC-BB-07-20190427-11](#)      Sample Location/Comments: [BB-07](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-25-19 10:30	

Sample ID: [1905002-25](#)      Sampled: [Apr-28-19 10:25](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-07-20190428-11](#)      Sample Location/Comments: [BB-07](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-26-19 10:25	

Sample ID: [1905002-26](#)      Sampled: [Apr-29-19 09:50](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-07-20190429-11](#)      Sample Location/Comments: [BB-07](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-27-19 09:50	

Sample ID: [1905002-27](#)      Sampled: [Apr-29-19 09:50](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-07-20190429-12](#)      Sample Location/Comments: [BB-07](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-27-19 09:50	

Sample ID: [1905002-28](#)      Sampled: [Apr-26-19 10:05](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-09-20190426-11](#)      Sample Location/Comments: [BB-09](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-24-19 10:05	

1905002

## US EPA Region 5 Chicago Regional Laboratory

Client: Region 6, US EPA  
Project: R06 Deer Park PFAS

Project Manager: Angela Ockrassa Davis  
Project Number: [none]

Sample ID: [1905002-29](#)      Sampled: [Apr-27-19 10:15](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-09-20190427-11](#)      Sample Location/Comments: [BB-09](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-25-19 10:15	

Sample ID: [1905002-30](#)      Sampled: [Apr-28-19 09:50](#)      Matrix: [Water](#)      [OC Source Sample](#)

Sample Name: [ITC-BB-09-20190428-11](#)      Sample Location/Comments: [BB-09](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-26-19 09:50	

Sample ID: [1905002-31](#)      Sampled: [Apr-29-19 09:35](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-09-20190429-11](#)      Sample Location/Comments: [BB-09](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-27-19 09:35	

Sample ID: [1905002-32](#)      Sampled: [Apr-26-19 09:55](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-11-20190426-11](#)      Sample Location/Comments: [BB-11](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-24-19 09:55	

Sample ID: [1905002-33](#)      Sampled: [Apr-27-19 10:05](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-11-20190427-11](#)      Sample Location/Comments: [BB-11](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-25-19 10:05	

1905002

## US EPA Region 5 Chicago Regional Laboratory

Client: Region 6, US EPA  
Project: R06 Deer Park PFAS

Project Manager: Angela Ockrassa Davis  
Project Number: [none]

Sample ID: [1905002-34](#)      Sampled: [Apr-28-19 09:40](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-11-20190428-11](#)      Sample Location/Comments: [BB-11](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-26-19 09:40	

Sample ID: [1905002-35](#)      Sampled: [Apr-29-19 09:15](#)      Matrix: [Water](#)      [OC Source Sample](#)

Sample Name: [ITC-BB-11-20190429-11](#)      Sample Location/Comments: [BB-11](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-27-19 09:15	

Sample ID: [1905002-36](#)      Sampled: [Apr-26-19 08:25](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-12-20190426-11](#)      Sample Location/Comments: [BB-12](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-24-19 08:25	

Sample ID: [1905002-37](#)      Sampled: [Apr-27-19 08:50](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-12-20190427-11](#)      Sample Location/Comments: [BB-12](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-25-19 08:50	

Sample ID: [1905002-38](#)      Sampled: [Apr-28-19 08:20](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-12-20190428-11](#)      Sample Location/Comments: [BB-12](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-26-19 08:20	

## WORK ORDER

Printed: 5/2/2019 10:07:25AM

1905002

## US EPA Region 5 Chicago Regional Laboratory

Client: Region 6, US EPA  
Project: R06 Deer Park PFAS

Project Manager: Angela Ockrassa Davis  
Project Number: [none]

Sample ID: [1905002-39](#)      Sampled: [Apr-29-19 08:10](#)      Matrix: [Water](#)

Sample Name: [ITC-BB-12-20190429-11](#)      Sample Location/Comments: [BB-12](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-27-19 08:10	

Sample ID: [1905002-40](#)      Sampled: [Apr-26-19 11:35](#)      Matrix: [Water](#)

Sample Name: [ITC-TB-03-20190426-11](#)      Sample Location/Comments: [TB-03](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-24-19 11:35	

Sample ID: [1905002-41](#)      Sampled: [Apr-27-19 08:50](#)      Matrix: [Water](#)

Sample Name: [ITC-TB-03-20190427-11](#)      Sample Location/Comments: [TB-03](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-25-19 08:50	

Sample ID: [1905002-42](#)      Sampled: [Apr-26-19 11:25](#)      Matrix: [Water](#)

Sample Name: [ITC-TB-04-20190426-11](#)      Sample Location/Comments: [TB-04](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-24-19 11:25	

Sample ID: [1905002-43](#)      Sampled: [Apr-27-19 09:30](#)      Matrix: [Water](#)

Sample Name: [ITC-TB-04-20190427-11](#)      Sample Location/Comments: [TB-04](#)

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-25-19 09:30	

## WORK ORDER

Printed: 5/2/2019 10:07:25AM

1905002

## US EPA Region 5 Chicago Regional Laboratory

Client: Region 6, US EPA  
Project: R06 Deer Park PFAS

Project Manager: Angela Ockrassa Davis  
Project Number: [none]

Sample ID: 1905002-44      Sampled: Apr-27-19 08:30      Matrix: Water

Sample Name: ITC-TB-05-20190427-11      Sample Location/Comments: TB-05

## Sample Comments:

Analysis	Hold time (days)	Expires	Comments
OSRTI PFC	28	May-25-19 08:30	

**REVIEWED***By Amanda Wroble at 10:07 am, May 02, 2019*

Reviewed By

Date



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-01-20190426-11 (1905002-01)

Matrix: Water

Sampled: Apr-26-19 08:45

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			44.7	ng/L	1	B19E001	May-01-19	May-02-19
perfluoropentanoate	U			44.7	"	"	"	"	"
perfluorohexanoate	36.6			8.94	"	"	"	"	"
perfluoroheptanoate	14.9			8.94	"	"	"	"	"
perfluorooctanoate	10.3			8.94	"	"	"	"	"
perfluorononanoate	U			8.94	"	"	"	"	"
perfluorodecanoate	U			8.94	"	"	"	"	"
perfluoroundecanoate	U			8.94	"	"	"	"	"
perfluorododecanoate	U			8.94	"	"	"	"	"
perfluorotridecanoate	U			8.94	"	"	"	"	"
perfluorotetradecanoate	U			8.94	"	"	"	"	"
perfluorobutyl sulfonate	13.6			8.94	"	"	"	"	"
perfluorohexyl sulfonate	18.3			8.94	"	"	"	"	"
perfluorooctyl sulfonate	52.6			8.94	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			8.94	"	"	"	"	"
perfluoro-1-pentanesulfonate (PFPeS)	U			8.94	"	"	"	"	"
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	341			8.94	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			8.94	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			8.94	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			8.94	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			8.94	"	"	"	"	"
N-MeFOSAA	U			8.94	"	"	"	"	"
N-EtFOSAA	U			8.94	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			8.94	"	"	"	"	"
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
D5-N-EtFOSAA	96.5			76.4%		70-130	"	"	"
D3-N-MeFOSAA	91.3			72.3%		70-130	"	"	"
perfluoro- (1,2-13C2)decanesulfonateC13(2)-8:2 FTS	79.3	Q		64.9%		70-130	"	"	"
perfluoro- (1,2-13C2)octanesulfonateC13(2)-6:2 FTS	97.0			81.0%		70-130	"	"	"
perfluoro(1,2-13C2)hexanesulfonateC13(2) )-4:2 FTS	80.6	Q		68.2%		70-130	"	"	"



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

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Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-01-20190426-11 (1905002-01)

Matrix: Water

Sampled: Apr-26-19 08:45

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
M9PFNA	94.6			74.9%		70-130	B19E001	May-01-19	May-02-19
M8PFOSA	100			79.3%		70-130	"	"	"
M8PFOS	95.2			78.8%		70-130	"	"	"
M8PFOA	98.0			77.6%		70-130	"	"	"
M7PFUnA	91.8			72.7%		70-130	"	"	"
M6PFDA	93.3			73.9%		70-130	"	"	"
M5PFPeA	112			88.5%		70-130	"	"	"
M5PFHxA	110			86.8%		70-130	"	"	"
M4PFHpA	103			81.3%		70-130	"	"	"
M3PFHxS	99.6			83.4%		70-130	"	"	"
M3PFBS	104			88.5%		70-130	"	"	"
M2PFTreA	9.52	Q		7.54%		70-130	"	"	"
MPFDoA	82.3	Q		65.2%		70-130	"	"	"
MPFBA	122			97.0%		70-130	"	"	"

ITC-BB-01-20190426-15 (1905002-02)

Matrix: Water

Sampled: Apr-26-19 11:15

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			48.9	ng/L	1	B19E001	May-01-19	May-02-19
perfluoropentanoate	U			48.9	"	"	"	"	"
perfluorohexanoate	U			9.77	"	"	"	"	"
perfluoroheptanoate	U			9.77	"	"	"	"	"
perfluorooctanoate	U			9.77	"	"	"	"	"
perfluorononanoate	U			9.77	"	"	"	"	"
perfluorodecanoate	U			9.77	"	"	"	"	"
perfluoroundecanoate	U			9.77	"	"	"	"	"
perfluorododecanoate	U			9.77	"	"	"	"	"
perfluorotridecanoate	U			9.77	"	"	"	"	"
perfluorotetradecanoate	U			9.77	"	"	"	"	"
perfluorobutyl sulfonate	U			9.77	"	"	"	"	"
perfluorohexyl sulfonate	U			9.77	"	"	"	"	"
perfluorooctyl sulfonate	U			9.77	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			9.77	"	"	"	"	"



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-01-20190426-15 (1905002-02)

Matrix: Water

Sampled: Apr-26-19 11:15

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluoro-1-pentanesulfonate (PFPeS)	U			9.77	ng/L	1	B19E001	May-01-19	May-02-19
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	U			9.77	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			9.77	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			9.77	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			9.77	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			9.77	"	"	"	"	"
N-MeFOSAA	U			9.77	"	"	"	"	"
N-EtFOSAA	U			9.77	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			9.77	"	"	"	"	"
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
D5-N-EtFOSAA	136			89.0%		70-130	"	"	"
D3-N-MeFOSAA	137			89.6%		70-130	"	"	"
perfluoro- (1,2-13C2)decanesulfonateC13(2)-8:2 FTS	118			79.7%		70-130	"	"	"
perfluoro- (1,2-13C2)octanesulfonateC13(2)-6:2 FTS	117			80.8%		70-130	"	"	"
perfluoro(1,2-13C2)hexanesulfonateC13(2) )-4:2 FTS	116			81.4%		70-130	"	"	"
M9PFNA	128			84.1%		70-130	"	"	"
M8PFOSA	132			86.6%		70-130	"	"	"
M8PFOS	129			88.6%		70-130	"	"	"
M8PFOA	126			82.6%		70-130	"	"	"
M7PFUnA	129			84.4%		70-130	"	"	"
M6PFDA	130			84.9%		70-130	"	"	"
M5PFPeA	134			87.8%		70-130	"	"	"
M5PFHxA	136			89.2%		70-130	"	"	"
M4PFHpA	133			87.2%		70-130	"	"	"
M3PFHxS	129			89.5%		70-130	"	"	"
M3PFBS	131			92.5%		70-130	"	"	"
M2PFTreA	119			77.9%		70-130	"	"	"
MPFDoA	133			86.9%		70-130	"	"	"
MPFBA	138			90.6%		70-130	"	"	"





Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

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10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-01-20190427-11 (1905002-03)

Matrix: Water

Sampled: Apr-27-19 09:15

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			42.5	ng/L	1	B19E001	May-01-19	May-02-19
perfluoropentanoate	U			42.5	"	"	"	"	"
perfluorohexanoate	34.0			8.49	"	"	"	"	"
perfluoroheptanoate	13.2			8.49	"	"	"	"	"
perfluorooctanoate	9.72			8.49	"	"	"	"	"
perfluorononanoate	U			8.49	"	"	"	"	"
perfluorodecanoate	U			8.49	"	"	"	"	"
perfluoroundecanoate	U			8.49	"	"	"	"	"
perfluorododecanoate	U			8.49	"	"	"	"	"
perfluorotridecanoate	U			8.49	"	"	"	"	"
perfluorotetradecanoate	U			8.49	"	"	"	"	"
perfluorobutyl sulfonate	12.5			8.49	"	"	"	"	"
perfluorohexyl sulfonate	14.3			8.49	"	"	"	"	"
perfluorooctyl sulfonate	45.7			8.49	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			8.49	"	"	"	"	"
perfluoro-1-pentanesulfonate (PFPeS)	U			8.49	"	"	"	"	"
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	323			8.49	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			8.49	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			8.49	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			8.49	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			8.49	"	"	"	"	"
N-MeFOSAA	U			8.49	"	"	"	"	"
N-EtFOSAA	U			8.49	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			8.49	"	"	"	"	"
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
D5-N-EtFOSAA	82.1			73.5%		70-130	"	"	"
D3-N-MeFOSAA	85.6			76.6%		70-130	"	"	"
perfluoro- (1,2-13C2)decanesulfonateC13(2)-8:2 FTS	72.9	Q		67.4%		70-130	"	"	"
perfluoro- (1,2-13C2)octanesulfonateC13(2)-6:2 FTS	90.0			84.9%		70-130	"	"	"
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:2 FTS	75.6			72.3%		70-130	"	"	"



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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
May-02-19 16:52

## Analysis by LC MS MS US EPA Region 5 Chicago Regional Laboratory

ITC-BB-01-20190427-11 (1905002-03)

Matrix: Water

Sampled: Apr-27-19 09:15

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
M9PFNA	86.6			77.5%		70-130	B19E001	May-01-19	May-02-19
M8PFOSA	85.7			76.7%		70-130	"	"	"
M8PFOS	88.4			82.7%		70-130	"	"	"
M8PFOA	89.5			80.1%		70-130	"	"	"
M7PFUnA	78.5			70.2%		70-130	"	"	"
M6PFDA	88.6			79.3%		70-130	"	"	"
M5PFPeA	102			90.9%		70-130	"	"	"
M5PFHxA	105			93.8%		70-130	"	"	"
M4PFHpA	94.4			84.4%		70-130	"	"	"
M3PFHxS	91.6			86.7%		70-130	"	"	"
M3PFBS	97.0			93.4%		70-130	"	"	"
M2PFTreA	0.776	Q		0.694%		70-130	"	"	"
MPFDoA	64.2	Q		57.4%		70-130	"	"	"
MPFBA	115			103%		70-130	"	"	"

ITC-BB-01-20190428-11 (1905002-04)

Matrix: Water

Sampled: Apr-28-19 08:40

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			45.2	ng/L	1	B19E001	May-01-19	May-02-19
perfluoropentanoate	U			45.2	"	"	"	"	"
perfluorohexanoate	37.8			9.03	"	"	"	"	"
perfluoroheptanoate	13.7			9.03	"	"	"	"	"
perfluorooctanoate	9.15			9.03	"	"	"	"	"
perfluorononanoate	U			9.03	"	"	"	"	"
perfluorodecanoate	U			9.03	"	"	"	"	"
perfluoroundecanoate	U			9.03	"	"	"	"	"
perfluorododecanoate	U			9.03	"	"	"	"	"
perfluorotridecanoate	U			9.03	"	"	"	"	"
perfluorotetradecanoate	U			9.03	"	"	"	"	"
perfluorobutyl sulfonate	12.7			9.03	"	"	"	"	"
perfluorohexyl sulfonate	13.1			9.03	"	"	"	"	"
perfluorooctyl sulfonate	43.3			9.03	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			9.03	"	"	"	"	"



Environmental Protection Agency Region 5  
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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-01-20190428-11 (1905002-04)

Matrix: Water

Sampled: Apr-28-19 08:40

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluoro-1-pentanesulfonate (PFPeS)	U			9.03	ng/L	1	B19E001	May-01-19	May-02-19
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	295			9.03	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			9.03	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			9.03	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			9.03	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			9.03	"	"	"	"	"
N-MeFOSAA	U			9.03	"	"	"	"	"
N-EtFOSAA	U			9.03	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			9.03	"	"	"	"	"
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
D5-N-EtFOSAA	100			77.8%		70-130	"	"	"
D3-N-MeFOSAA	96.8			75.0%		70-130	"	"	"
perfluoro-(1,2-13C2)decanesulfonateC13(2)-8:2 FTS	83.3	Q		66.6%		70-130	"	"	"
perfluoro-(1,2-13C2)octanesulfonateC13(2)-6:2 FTS	98.9			80.7%		70-130	"	"	"
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:2 FTS	86.0			71.3%		70-130	"	"	"
M9PFNA	101			78.5%		70-130	"	"	"
M8PFOSA	104			80.9%		70-130	"	"	"
M8PFOS	103			83.4%		70-130	"	"	"
M8PFOA	104			80.7%		70-130	"	"	"
M7PFUnA	99.9			77.4%		70-130	"	"	"
M6PFDA	101			78.2%		70-130	"	"	"
M5PFPeA	116			90.0%		70-130	"	"	"
M5PFHxA	124			95.7%		70-130	"	"	"
M4PFHpA	114			88.4%		70-130	"	"	"
M3PFHxS	108			88.3%		70-130	"	"	"
M3PFBS	115			96.0%		70-130	"	"	"
M2PFTreA	22.1	Q		17.1%		70-130	"	"	"
MPFDoA	89.1	Q		69.0%		70-130	"	"	"
MPFBA	130			101%		70-130	"	"	"



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

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Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-01-20190429-11 (1905002-05)

Matrix: Water

Sampled: Apr-29-19 08:30

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			44.5	ng/L	1	B19E001	May-01-19	May-02-19
perfluoropentanoate	U			44.5	"	"	"	"	"
perfluorohexanoate	38.5			8.89	"	"	"	"	"
perfluoroheptanoate	14.6			8.89	"	"	"	"	"
perfluorooctanoate	9.43			8.89	"	"	"	"	"
perfluorononanoate	U			8.89	"	"	"	"	"
perfluorodecanoate	U			8.89	"	"	"	"	"
perfluoroundecanoate	U			8.89	"	"	"	"	"
perfluorododecanoate	U			8.89	"	"	"	"	"
perfluorotridecanoate	U			8.89	"	"	"	"	"
perfluorotetradecanoate	U			8.89	"	"	"	"	"
perfluorobutyl sulfonate	10.4			8.89	"	"	"	"	"
perfluorohexyl sulfonate	14.2			8.89	"	"	"	"	"
perfluorooctyl sulfonate	47.3			8.89	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			8.89	"	"	"	"	"
perfluoro-1-pentanesulfonate (PFPeS)	U			8.89	"	"	"	"	"
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	313			8.89	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			8.89	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			8.89	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			8.89	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			8.89	"	"	"	"	"
N-MeFOSAA	U			8.89	"	"	"	"	"
N-EtFOSAA	U			8.89	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			8.89	"	"	"	"	"
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
D5-N-EtFOSAA	91.4			73.4%		70-130	"	"	"
D3-N-MeFOSAA	92.5			74.2%		70-130	"	"	"
perfluoro- (1,2-13C2)decanesulfonateC13(2)-8:2 FTS	79.9	Q		66.3%		70-130	"	"	"
perfluoro- (1,2-13C2)octanesulfonateC13(2)-6:2 FTS	95.7			80.9%		70-130	"	"	"
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:2 FTS	81.3	Q		69.8%		70-130	"	"	"



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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
May-02-19 16:52

## Analysis by LC MS MS US EPA Region 5 Chicago Regional Laboratory

ITC-BB-01-20190429-11 (1905002-05)

Matrix: Water

Sampled: Apr-29-19 08:30

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
M9PFNA	99.9			80.2%		70-130	B19E001	May-01-19	May-02-19
M8PFOSA	97.2			78.1%		70-130	"	"	"
M8PFOS	100			84.2%		70-130	"	"	"
M8PFOA	101			81.1%		70-130	"	"	"
M7PFUnA	91.5			73.4%		70-130	"	"	"
M6PFDA	97.4			78.2%		70-130	"	"	"
M5PPFeA	117			94.3%		70-130	"	"	"
M5PFHxA	119			95.8%		70-130	"	"	"
M4PFHpA	112			89.5%		70-130	"	"	"
M3PFHxS	102			86.7%		70-130	"	"	"
M3PFBS	111			95.7%		70-130	"	"	"
M2PFTreA	11.1	Q		8.92%		70-130	"	"	"
MPFDoA	83.6	Q		67.1%		70-130	"	"	"
MPFBA	128			102%		70-130	"	"	"

ITC-BB-02-20190426-11 (1905002-06)

Matrix: Water

Sampled: Apr-26-19 08:55

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			44.4	ng/L	1	B19E001	May-01-19	May-02-19
perfluoropentanoate	U			44.4	"	"	"	"	"
perfluorohexanoate	37.4			8.89	"	"	"	"	"
perfluoroheptanoate	15.1			8.89	"	"	"	"	"
perfluorooctanoate	9.78			8.89	"	"	"	"	"
perfluorononanoate	U			8.89	"	"	"	"	"
perfluorodecanoate	U			8.89	"	"	"	"	"
perfluoroundecanoate	U			8.89	"	"	"	"	"
perfluorododecanoate	U			8.89	"	"	"	"	"
perfluorotridecanoate	U			8.89	"	"	"	"	"
perfluorotetradecanoate	U			8.89	"	"	"	"	"
perfluorobutyl sulfonate	13.9			8.89	"	"	"	"	"
perfluorohexyl sulfonate	14.1			8.89	"	"	"	"	"
perfluorooctyl sulfonate	53.1			8.89	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			8.89	"	"	"	"	"



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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-02-20190426-11 (1905002-06)

Matrix: Water

Sampled: Apr-26-19 08:55

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluoro-1-pentanesulfonate (PFPeS)	U			8.89	ng/L	1	B19E001	May-01-19	May-02-19
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	342			8.89	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			8.89	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			8.89	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			8.89	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			8.89	"	"	"	"	"
N-MeFOSAA	U			8.89	"	"	"	"	"
N-EtFOSAA	U			8.89	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			8.89	"	"	"	"	"
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
D5-N-EtFOSAA	97.0			78.0%		70-130	"	"	"
D3-N-MeFOSAA	95.4			76.7%		70-130	"	"	"
perfluoro-(1,2-13C2)decanesulfonateC13(2)-8:2 FTS	82.6	Q		68.6%		70-130	"	"	"
perfluoro-(1,2-13C2)octanesulfonateC13(2)-6:2 FTS	99.1			83.9%		70-130	"	"	"
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:2 FTS	87.4			75.1%		70-130	"	"	"
M9PFNA	98.3			79.0%		70-130	"	"	"
M8PFOSA	97.3			78.2%		70-130	"	"	"
M8PFOS	104			87.3%		70-130	"	"	"
M8PFOA	102			82.2%		70-130	"	"	"
M7PFUnA	94.6			76.0%		70-130	"	"	"
M6PFDA	97.1			78.0%		70-130	"	"	"
M5PFPeA	117			93.8%		70-130	"	"	"
M5PFHxA	124			100%		70-130	"	"	"
M4PFHpA	114			91.9%		70-130	"	"	"
M3PFHxS	105			88.9%		70-130	"	"	"
M3PFBS	117			102%		70-130	"	"	"
M2PFTreA	14.5	Q		11.7%		70-130	"	"	"
MPFDoA	86.7	Q		69.7%		70-130	"	"	"
MPFBA	128			103%		70-130	"	"	"



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
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Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-02-20190426-12 (1905002-07)

Matrix: Water

Sampled: Apr-26-19 08:55

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			44.9	ng/L	1	B19E001	May-01-19	May-02-19
perfluoropentanoate	U			44.9	"	"	"	"	"
perfluorohexanoate	38.6			8.99	"	"	"	"	"
perfluoroheptanoate	14.1			8.99	"	"	"	"	"
perfluorooctanoate	9.75			8.99	"	"	"	"	"
perfluorononanoate	U			8.99	"	"	"	"	"
perfluorodecanoate	U			8.99	"	"	"	"	"
perfluoroundecanoate	U			8.99	"	"	"	"	"
perfluorododecanoate	U			8.99	"	"	"	"	"
perfluorotridecanoate	U			8.99	"	"	"	"	"
perfluorotetradecanoate	U			8.99	"	"	"	"	"
perfluorobutyl sulfonate	13.3			8.99	"	"	"	"	"
perfluorohexyl sulfonate	16.9			8.99	"	"	"	"	"
perfluorooctyl sulfonate	51.9			8.99	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			8.99	"	"	"	"	"
perfluoro-1-pentanesulfonate (PFPeS)	U			8.99	"	"	"	"	"
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	352			8.99	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			8.99	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			8.99	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			8.99	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			8.99	"	"	"	"	"
N-MeFOSAA	U			8.99	"	"	"	"	"
N-EtFOSAA	U			8.99	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			8.99	"	"	"	"	"
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
D5-N-EtFOSAA	105			82.0%		70-130	"	"	"
D3-N-MeFOSAA	100			78.6%		70-130	"	"	"
perfluoro- (1,2-13C2)decanesulfonateC13(2)-8:2 FTS	88.1			71.4%		70-130	"	"	"
perfluoro- (1,2-13C2)octanesulfonateC13(2)-6:2 FTS	103			84.7%		70-130	"	"	"
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:2 FTS	93.7			78.5%		70-130	"	"	"



Environmental Protection Agency Region 5  
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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-02-20190426-12 (1905002-07)

Matrix: Water

Sampled: Apr-26-19 08:55

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
M9PFNA	102			79.8%		70-130	B19E001	May-01-19	May-02-19
M8PFOSA	109			85.2%		70-130	"	"	"
M8PFOS	101			83.1%		70-130	"	"	"
M8PFOA	105			82.4%		70-130	"	"	"
M7PFUnA	100			78.4%		70-130	"	"	"
M6PFDA	102			79.7%		70-130	"	"	"
M5PFPeA	119			93.5%		70-130	"	"	"
M5PFHxA	124			97.3%		70-130	"	"	"
M4PFHpA	115			90.4%		70-130	"	"	"
M3PFHxS	109			90.3%		70-130	"	"	"
M3PFBS	120			101%		70-130	"	"	"
M2PFTreA	23.9	Q		18.7%		70-130	"	"	"
MPFDoA	92.7			72.6%		70-130	"	"	"
MPFBA	134			105%		70-130	"	"	"

ITC-BB-02-20190427-11 (1905002-08)

Matrix: Water

Sampled: Apr-27-19 09:30

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			42.9	ng/L	1	B19E001	May-01-19	May-02-19
perfluoropentanoate	U			42.9	"	"	"	"	"
perfluorohexanoate	84.2			8.59	"	"	"	"	"
perfluoroheptanoate	16.7			8.59	"	"	"	"	"
perfluorooctanoate	10.1			8.59	"	"	"	"	"
perfluorononanoate	U			8.59	"	"	"	"	"
perfluorodecanoate	U			8.59	"	"	"	"	"
perfluoroundecanoate	U			8.59	"	"	"	"	"
perfluorododecanoate	U			8.59	"	"	"	"	"
perfluorotridecanoate	U			8.59	"	"	"	"	"
perfluorotetradecanoate	U			8.59	"	"	"	"	"
perfluorobutyl sulfonate	13.1			8.59	"	"	"	"	"
perfluorohexyl sulfonate	18.5			8.59	"	"	"	"	"
perfluorooctyl sulfonate	97.4			8.59	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			8.59	"	"	"	"	"





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Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-02-20190427-11 (1905002-08)

Matrix: Water

Sampled: Apr-27-19 09:30

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluoro-1-pentanesulfonate (PFPeS)	U			8.59	ng/L	1	B19E001	May-01-19	May-02-19
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	504			8.59	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			8.59	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			8.59	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			8.59	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			8.59	"	"	"	"	"
N-MeFOSAA	U			8.59	"	"	"	"	"
N-EtFOSAA	U			8.59	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			8.59	"	"	"	"	"
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
D5-N-EtFOSAA	89.0			77.6%		70-130	"	"	"
D3-N-MeFOSAA	85.2			74.3%		70-130	"	"	"
perfluoro-(1,2-13C2)decanesulfonateC13(2)-8:2 FTS	75.8	Q		68.2%		70-130	"	"	"
perfluoro-(1,2-13C2)octanesulfonateC13(2)-6:2 FTS	102			93.5%		70-130	"	"	"
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:2 FTS	80.0			74.5%		70-130	"	"	"
M9PFNA	89.7			78.2%		70-130	"	"	"
M8PFOSA	90.5			78.8%		70-130	"	"	"
M8PFOS	93.2			84.9%		70-130	"	"	"
M8PFOA	94.9			82.7%		70-130	"	"	"
M7PFUnA	82.1			71.6%		70-130	"	"	"
M6PFDA	90.3			78.7%		70-130	"	"	"
M5PFPeA	109			95.1%		70-130	"	"	"
M5PFHxA	116			101%		70-130	"	"	"
M4PFHpA	104			91.0%		70-130	"	"	"
M3PFHxS	97.8			90.1%		70-130	"	"	"
M3PFBS	110			103%		70-130	"	"	"
M2PFTreA	1.13	Q		0.982%		70-130	"	"	"
MPFDoA	70.1	Q		61.1%		70-130	"	"	"
MPFBA	119			104%		70-130	"	"	"



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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-02-20190428-11 (1905002-09)

Matrix: Water

Sampled: Apr-28-19 08:55

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			43.3	ng/L	1	B19E001	May-01-19	May-02-19
perfluoropentanoate	U			43.3	"	"	"	"	"
perfluorohexanoate	37.5			8.67	"	"	"	"	"
perfluoroheptanoate	13.5			8.67	"	"	"	"	"
perfluorooctanoate	8.73			8.67	"	"	"	"	"
perfluorononanoate	U			8.67	"	"	"	"	"
perfluorodecanoate	U			8.67	"	"	"	"	"
perfluoroundecanoate	U			8.67	"	"	"	"	"
perfluorododecanoate	U			8.67	"	"	"	"	"
perfluorotridecanoate	U			8.67	"	"	"	"	"
perfluorotetradecanoate	U			8.67	"	"	"	"	"
perfluorobutyl sulfonate	13.1			8.67	"	"	"	"	"
perfluorohexyl sulfonate	15.5			8.67	"	"	"	"	"
perfluorooctyl sulfonate	41.8			8.67	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			8.67	"	"	"	"	"
perfluoro-1-pentanesulfonate (PFPeS)	U			8.67	"	"	"	"	"
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	292			8.67	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			8.67	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			8.67	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			8.67	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			8.67	"	"	"	"	"
N-MeFOSAA	U			8.67	"	"	"	"	"
N-EtFOSAA	U			8.67	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			8.67	"	"	"	"	"
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
D5-N-EtFOSAA	91.3			77.7%		70-130	"	"	"
D3-N-MeFOSAA	89.3			76.1%		70-130	"	"	"
perfluoro- (1,2-13C2)decanesulfonateC13(2)-8:2 FTS	73.5	Q		64.7%		70-130	"	"	"
perfluoro- (1,2-13C2)octanesulfonateC13(2)-6:2 FTS	91.6			82.2%		70-130	"	"	"
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:2 FTS	80.8			73.6%		70-130	"	"	"



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

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Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-02-20190428-11 (1905002-09)

Matrix: Water

Sampled: Apr-28-19 08:55

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
M9PFNA	91.2			77.7%		70-130	B19E001	May-01-19	May-02-19
M8PFOSA	94.0			80.0%		70-130	"	"	"
M8PFOS	93.8			83.5%		70-130	"	"	"
M8PFOA	96.9			82.5%		70-130	"	"	"
M7PFUnA	86.9			74.0%		70-130	"	"	"
M6PFDA	89.2			75.9%		70-130	"	"	"
M5PFPeA	110			93.4%		70-130	"	"	"
M5PFHxA	117			99.2%		70-130	"	"	"
M4PFHpA	106			90.4%		70-130	"	"	"
M3PFHxS	98.3			88.5%		70-130	"	"	"
M3PFBS	112			103%		70-130	"	"	"
M2PFTreA	2.95	Q		2.52%		70-130	"	"	"
MPFDoA	75.9	Q		64.6%		70-130	"	"	"
MPFBA	122			104%		70-130	"	"	"

ITC-BB-02-20190429-11 (1905002-10)

Matrix: Water

Sampled: Apr-29-19 08:40

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			43.1	ng/L	1	B19E001	May-01-19	May-02-19
perfluoropentanoate	U			43.1	"	"	"	"	"
perfluorohexanoate	36.0			8.62	"	"	"	"	"
perfluoroheptanoate	14.3			8.62	"	"	"	"	"
perfluorooctanoate	U			8.62	"	"	"	"	"
perfluorononanoate	U			8.62	"	"	"	"	"
perfluorodecanoate	U			8.62	"	"	"	"	"
perfluoroundecanoate	U			8.62	"	"	"	"	"
perfluorododecanoate	U			8.62	"	"	"	"	"
perfluorotridecanoate	U			8.62	"	"	"	"	"
perfluorotetradecanoate	U			8.62	"	"	"	"	"
perfluorobutyl sulfonate	11.5			8.62	"	"	"	"	"
perfluorohexyl sulfonate	14.2			8.62	"	"	"	"	"
perfluorooctyl sulfonate	44.1			8.62	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			8.62	"	"	"	"	"



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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-02-20190429-11 (1905002-10)

Matrix: Water

Sampled: Apr-29-19 08:40

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluoro-1-pentanesulfonate (PFPeS)	U			8.62	ng/L	1	B19E001	May-01-19	May-02-19
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	525			8.62	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			8.62	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			8.62	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			8.62	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			8.62	"	"	"	"	"
N-MeFOSAA	U			8.62	"	"	"	"	"
N-EtFOSAA	U			8.62	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			8.62	"	"	"	"	"
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
D5-N-EtFOSAA	86.8			74.9%		70-130	"	"	"
D3-N-MeFOSAA	86.6			74.7%		70-130	"	"	"
perfluoro-(1,2-13C2)decanesulfonateC13(2)-8:2 FTS	71.1	Q		63.3%		70-130	"	"	"
perfluoro-(1,2-13C2)octanesulfonateC13(2)-6:2 FTS	99.0			90.0%		70-130	"	"	"
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:2 FTS	80.6			74.4%		70-130	"	"	"
M9PFNA	93.4			80.5%		70-130	"	"	"
M8PFOSA	90.3			77.9%		70-130	"	"	"
M8PFOS	94.3			84.9%		70-130	"	"	"
M8PFOA	95.4			82.3%		70-130	"	"	"
M7PFUnA	83.5			72.0%		70-130	"	"	"
M6PFDA	93.0			80.2%		70-130	"	"	"
M5PFPeA	111			95.6%		70-130	"	"	"
M5PFHxA	117			101%		70-130	"	"	"
M4PFHpA	106			91.2%		70-130	"	"	"
M3PFHxS	101			91.8%		70-130	"	"	"
M3PFBS	112			104%		70-130	"	"	"
M2PFTreA	0.937	Q		0.808%		70-130	"	"	"
MPFDoA	67.8	Q		58.5%		70-130	"	"	"
MPFBA	120			104%		70-130	"	"	"



Environmental Protection Agency Region 5  
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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-02-20190429-15 (1905002-11)

Matrix: Water

Sampled: Apr-29-19 11:15

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			46.6	ng/L	1	B19E001	May-01-19	May-02-19
perfluoropentanoate	U			46.6	"	"	"	"	"
perfluorohexanoate	U			9.32	"	"	"	"	"
perfluoroheptanoate	U			9.32	"	"	"	"	"
perfluorooctanoate	U			9.32	"	"	"	"	"
perfluorononanoate	U			9.32	"	"	"	"	"
perfluorodecanoate	U			9.32	"	"	"	"	"
perfluoroundecanoate	U			9.32	"	"	"	"	"
perfluorododecanoate	U			9.32	"	"	"	"	"
perfluorotridecanoate	U			9.32	"	"	"	"	"
perfluorotetradecanoate	U			9.32	"	"	"	"	"
perfluorobutyl sulfonate	U			9.32	"	"	"	"	"
perfluorohexyl sulfonate	U			9.32	"	"	"	"	"
perfluorooctyl sulfonate	U			9.32	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			9.32	"	"	"	"	"
perfluoro-1-pentanesulfonate (PFPeS)	U			9.32	"	"	"	"	"
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	119			9.32	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			9.32	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			9.32	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			9.32	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			9.32	"	"	"	"	"
N-MeFOSAA	U			9.32	"	"	"	"	"
N-EtFOSAA	U			9.32	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			9.32	"	"	"	"	"
Surogate	Result			%REC	%REC Limits		Batch	Prepared	Analyzed
D5-N-EtFOSAA	124			89.4%	70-130		"	"	"
D3-N-MeFOSAA	121			87.3%	70-130		"	"	"
perfluoro- (1,2-13C2)decanesulfonateC13(2)-8:2 FTS	108			80.6%	70-130		"	"	"
perfluoro- (1,2-13C2)octanesulfonateC13(2)-6:2 FTS	112			85.7%	70-130		"	"	"
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:2 FTS	106			82.2%	70-130		"	"	"



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

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Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-02-20190429-15 (1905002-11)

Matrix: Water

Sampled: Apr-29-19 11:15

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
M9PFNA	118			85.1%		70-130	B19E001	May-01-19	May-02-19
M8PFOSA	119			86.2%		70-130	"	"	"
M8PFOS	121			91.3%		70-130	"	"	"
M8PFOA	115			83.1%		70-130	"	"	"
M7PFUnA	117			84.7%		70-130	"	"	"
M6PFDA	117			85.0%		70-130	"	"	"
M5PFPeA	132			95.4%		70-130	"	"	"
M5PFHxA	135			97.7%		70-130	"	"	"
M4PFHpA	125			90.4%		70-130	"	"	"
M3PFHxS	117			89.8%		70-130	"	"	"
M3PFBS	128			100%		70-130	"	"	"
M2PFTreA	92.8	Q		67.2%		70-130	"	"	"
MPFDoA	119			86.3%		70-130	"	"	"
MPFBA	131			95.0%		70-130	"	"	"

ITC-BB-03-20190426-11 (1905002-12)

Matrix: Water

Sampled: Apr-26-19 09:10

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			42.0	ng/L	1	B19E001	May-01-19	May-02-19
perfluoropentanoate	U			42.0	"	"	"	"	"
perfluorohexanoate	41.1			8.40	"	"	"	"	"
perfluoroheptanoate	16.1			8.40	"	"	"	"	"
perfluorooctanoate	9.27			8.40	"	"	"	"	"
perfluorononanoate	14.9			8.40	"	"	"	"	"
perfluorodecanoate	U			8.40	"	"	"	"	"
perfluoroundecanoate	U			8.40	"	"	"	"	"
perfluorododecanoate	U			8.40	"	"	"	"	"
perfluorotridecanoate	U			8.40	"	"	"	"	"
perfluorotetradecanoate	U			8.40	"	"	"	"	"
perfluorobutyl sulfonate	13.9			8.40	"	"	"	"	"
perfluorohexyl sulfonate	17.1			8.40	"	"	"	"	"
perfluorooctyl sulfonate	59.1			8.40	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			8.40	"	"	"	"	"



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

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Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-03-20190426-11 (1905002-12)

Matrix: Water

Sampled: Apr-26-19 09:10

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluoro-1-pentanesulfonate (PFPeS)	U			8.40	ng/L	1	B19E001	May-01-19	May-02-19
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	492			8.40	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			8.40	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			8.40	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			8.40	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			8.40	"	"	"	"	"
N-MeFOSAA	U			8.40	"	"	"	"	"
N-EtFOSAA	U			8.40	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			8.40	"	"	"	"	"
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
D5-N-EtFOSAA	89.7			82.4%		70-130	"	"	"
D3-N-MeFOSAA	85.4			78.5%		70-130	"	"	"
perfluoro-(1,2-13C2)decanesulfonateC13(2)-8:2 FTS	72.7	Q		69.0%		70-130	"	"	"
perfluoro-(1,2-13C2)octanesulfonateC13(2)-6:2 FTS	100			97.0%		70-130	"	"	"
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:2 FTS	77.7			76.4%		70-130	"	"	"
M9PFNA	87.2			80.1%		70-130	"	"	"
M8PFOSA	87.4			80.2%		70-130	"	"	"
M8PFOS	89.6			86.0%		70-130	"	"	"
M8PFOA	91.0			83.6%		70-130	"	"	"
M7PFUnA	78.9			72.4%		70-130	"	"	"
M6PFDA	87.0			79.9%		70-130	"	"	"
M5PFPeA	102			94.1%		70-130	"	"	"
M5PFHxA	108			99.2%		70-130	"	"	"
M4PFHpA	101			92.6%		70-130	"	"	"
M3PFHxS	91.8			89.2%		70-130	"	"	"
M3PFBS	104			103%		70-130	"	"	"
M2PFTreA	0.104	Q		0.0959%		70-130	"	"	"
MPFDoA	63.1	Q		58.0%		70-130	"	"	"
MPFBA	117			108%		70-130	"	"	"



Environmental Protection Agency Region 5  
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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-03-20190427-11 (1905002-13)

Matrix: Water

Sampled: Apr-27-19 09:40

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			41.0	ng/L	1	B19E001	May-01-19	May-02-19
perfluoropentanoate	U			41.0	"	"	"	"	"
perfluorohexanoate	40.8			8.19	"	"	"	"	"
perfluoroheptanoate	15.4			8.19	"	"	"	"	"
perfluorooctanoate	9.34			8.19	"	"	"	"	"
perfluorononanoate	U			8.19	"	"	"	"	"
perfluorodecanoate	U			8.19	"	"	"	"	"
perfluoroundecanoate	U			8.19	"	"	"	"	"
perfluorododecanoate	U			8.19	"	"	"	"	"
perfluorotridecanoate	U			8.19	"	"	"	"	"
perfluorotetradecanoate	U			8.19	"	"	"	"	"
perfluorobutyl sulfonate	13.2			8.19	"	"	"	"	"
perfluorohexyl sulfonate	15.6			8.19	"	"	"	"	"
perfluorooctyl sulfonate	48.0			8.19	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			8.19	"	"	"	"	"
perfluoro-1-pentanesulfonate (PFPeS)	U			8.19	"	"	"	"	"
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	576			8.19	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			8.19	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			8.19	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			8.19	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			8.19	"	"	"	"	"
N-MeFOSAA	U			8.19	"	"	"	"	"
N-EtFOSAA	U			8.19	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			8.19	"	"	"	"	"
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
D5-N-EtFOSAA	76.0			74.4%		70-130	"	"	"
D3-N-MeFOSAA	78.1			76.4%		70-130	"	"	"
perfluoro- (1,2-13C2)decanesulfonateC13(2)-8:2 FTS	65.8	Q		66.5%		70-130	"	"	"
perfluoro- (1,2-13C2)octanesulfonateC13(2)-6:2 FTS	94.2			97.2%		70-130	"	"	"
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:2 FTS	70.7			74.0%		70-130	"	"	"





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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-03-20190427-11 (1905002-13)

**Matrix: Water**

**Sampled: Apr-27-19 09:40**

**Received: Apr-30-19 09:00**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
M9PFNA	81.6			79.8%		70-130	B19E001	May-01-19	May-02-19
M8PFOSA	78.8			77.1%		70-130	"	"	"
M8PFOS	78.6			80.3%		70-130	"	"	"
M8PFOA	83.0			81.2%		70-130	"	"	"
M7PFUnA	69.8	Q		68.3%		70-130	"	"	"
M6PFDA	78.0			76.3%		70-130	"	"	"
M5PFPeA	96.6			94.5%		70-130	"	"	"
M5PFHxA	99.4			97.2%		70-130	"	"	"
M4PFHpA	94.6			92.6%		70-130	"	"	"
M3PFHxS	87.8			90.8%		70-130	"	"	"
M3PFBS	98.7			104%		70-130	"	"	"
M2PFTreA	0.00	Q		%		70-130	"	"	"
MPFDoA	51.7	Q		50.5%		70-130	"	"	"
MPFBA	108			106%		70-130	"	"	"

ITC-BB-03-20190427-12 (1905002-14)

**Matrix: Water**

**Sampled: Apr-27-19 09:40**

**Received: Apr-30-19 09:00**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			45.8	ng/L	1	B19E001	May-01-19	May-02-19
perfluoropentanoate	U			45.8	"	"	"	"	"
perfluorohexanoate	38.6			9.16	"	"	"	"	"
perfluoroheptanoate	14.6			9.16	"	"	"	"	"
perfluorooctanoate	U			9.16	"	"	"	"	"
perfluorononanoate	U			9.16	"	"	"	"	"
perfluorodecanoate	U			9.16	"	"	"	"	"
perfluoroundecanoate	U			9.16	"	"	"	"	"
perfluorododecanoate	U			9.16	"	"	"	"	"
perfluorotridecanoate	U			9.16	"	"	"	"	"
perfluorotetradecanoate	U			9.16	"	"	"	"	"
perfluorobutyl sulfonate	13.6			9.16	"	"	"	"	"
perfluorohexyl sulfonate	16.6			9.16	"	"	"	"	"
perfluorooctyl sulfonate	51.7			9.16	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			9.16	"	"	"	"	"



Environmental Protection Agency Region 5  
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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-03-20190427-12 (1905002-14)

Matrix: Water

Sampled: Apr-27-19 09:40

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluoro-1-pentanesulfonate (PFPeS)	U			9.16	ng/L	1	B19E001	May-01-19	May-02-19
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	750			9.16	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			9.16	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			9.16	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			9.16	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			9.16	"	"	"	"	"
N-MeFOSAA	U			9.16	"	"	"	"	"
N-EtFOSAA	U			9.16	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			9.16	"	"	"	"	"
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
D5-N-EtFOSAA	106			79.8%		70-130	"	"	"
D3-N-MeFOSAA	106			79.5%		70-130	"	"	"
perfluoro-(1,2-13C2)decanesulfonateC13(2)-8:2 FTS	86.1	Q		66.8%		70-130	"	"	"
perfluoro-(1,2-13C2)octanesulfonateC13(2)-6:2 FTS	125			98.9%		70-130	"	"	"
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:2 FTS	92.4			74.1%		70-130	"	"	"
M9PFNA	105			78.9%		70-130	"	"	"
M8PFOSA	108			80.9%		70-130	"	"	"
M8PFOS	113			88.6%		70-130	"	"	"
M8PFOA	109			81.7%		70-130	"	"	"
M7PFUnA	102			76.8%		70-130	"	"	"
M6PFDA	109			81.6%		70-130	"	"	"
M5PFPeA	124			93.2%		70-130	"	"	"
M5PFHxA	130			97.8%		70-130	"	"	"
M4PFHpA	119			89.5%		70-130	"	"	"
M3PFHxS	116			91.9%		70-130	"	"	"
M3PFBS	130			105%		70-130	"	"	"
M2PFTreA	29.9	Q		22.4%		70-130	"	"	"
MPFDoA	96.3			72.2%		70-130	"	"	"
MPFBA	135			101%		70-130	"	"	"



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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

## Analysis by LC MS MS US EPA Region 5 Chicago Regional Laboratory

ITC-BB-03-20190428-11 (1905002-15)

Matrix: Water

Sampled: Apr-28-19 09:05

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			44.6	ng/L	1	B19E001	May-01-19	May-02-19
perfluoropentanoate	U			44.6	"	"	"	"	"
perfluorohexanoate	39.9			8.93	"	"	"	"	"
perfluoroheptanoate	16.0			8.93	"	"	"	"	"
perfluorooctanoate	10.4			8.93	"	"	"	"	"
perfluorononanoate	U			8.93	"	"	"	"	"
perfluorodecanoate	U			8.93	"	"	"	"	"
perfluoroundecanoate	U			8.93	"	"	"	"	"
perfluorododecanoate	U			8.93	"	"	"	"	"
perfluorotridecanoate	U			8.93	"	"	"	"	"
perfluorotetradecanoate	U			8.93	"	"	"	"	"
perfluorobutyl sulfonate	13.3			8.93	"	"	"	"	"
perfluorohexyl sulfonate	14.5			8.93	"	"	"	"	"
perfluorooctyl sulfonate	51.6			8.93	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			8.93	"	"	"	"	"
perfluoro-1-pentanesulfonate (PFPeS)	U			8.93	"	"	"	"	"
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	571			8.93	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			8.93	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			8.93	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			8.93	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			8.93	"	"	"	"	"
N-MeFOSAA	U			8.93	"	"	"	"	"
N-EtFOSAA	U			8.93	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			8.93	"	"	"	"	"
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
D5-N-EtFOSAA	100			79.9%		70-130	"	"	"
D3-N-MeFOSAA	94.9			75.5%		70-130	"	"	"
perfluoro- (1,2-13C2)decanesulfonateC13(2)-8:2 FTS	80.5	Q		66.1%		70-130	"	"	"
perfluoro- (1,2-13C2)octanesulfonateC13(2)-6:2 FTS	108			90.4%		70-130	"	"	"
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:2 FTS	86.8			73.9%		70-130	"	"	"



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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
May-02-19 16:52

## Analysis by LC MS MS US EPA Region 5 Chicago Regional Laboratory

ITC-BB-03-20190428-11 (1905002-15)

Matrix: Water

Sampled: Apr-28-19 09:05

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
M9PFNA	99.4			79.1%		70-130	B19E001	May-01-19	May-02-19
M8PFOSA	101			79.9%		70-130	"	"	"
M8PFOS	102			84.4%		70-130	"	"	"
M8PFOA	102			81.4%		70-130	"	"	"
M7PFUnA	93.8			74.6%		70-130	"	"	"
M6PFDA	99.6			79.2%		70-130	"	"	"
M5PFPeA	119			94.5%		70-130	"	"	"
M5PFHxA	120			95.7%		70-130	"	"	"
M4PFHpA	118			94.2%		70-130	"	"	"
M3PFHxS	108			90.6%		70-130	"	"	"
M3PFBS	120			103%		70-130	"	"	"
M2PFTreA	8.09	Q		6.43%		70-130	"	"	"
MPFDoA	82.8	Q		65.9%		70-130	"	"	"
MPFBA	127			101%		70-130	"	"	"

ITC-BB-03-20190428-15 (1905002-16)

Matrix: Water

Sampled: Apr-28-19 11:00

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			46.5	ng/L	1	B19E001	May-01-19	May-02-19
perfluoropentanoate	U			46.5	"	"	"	"	"
perfluorohexanoate	U			9.30	"	"	"	"	"
perfluoroheptanoate	U			9.30	"	"	"	"	"
perfluorooctanoate	U			9.30	"	"	"	"	"
perfluorononanoate	U			9.30	"	"	"	"	"
perfluorodecanoate	U			9.30	"	"	"	"	"
perfluoroundecanoate	U			9.30	"	"	"	"	"
perfluorododecanoate	U			9.30	"	"	"	"	"
perfluorotridecanoate	U			9.30	"	"	"	"	"
perfluorotetradecanoate	U			9.30	"	"	"	"	"
perfluorobutyl sulfonate	U			9.30	"	"	"	"	"
perfluorohexyl sulfonate	U			9.30	"	"	"	"	"
perfluorooctyl sulfonate	U			9.30	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			9.30	"	"	"	"	"



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-03-20190428-15 (1905002-16)

Matrix: Water

Sampled: Apr-28-19 11:00

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluoro-1-pentanesulfonate (PFPeS)	U			9.30	ng/L	1	B19E001	May-01-19	May-02-19
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	387			9.30	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			9.30	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			9.30	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			9.30	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			9.30	"	"	"	"	"
N-MeFOSAA	U			9.30	"	"	"	"	"
N-EtFOSAA	U			9.30	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			9.30	"	"	"	"	"
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
D5-N-EtFOSAA	127			92.4%		70-130	"	"	"
D3-N-MeFOSAA	125			90.8%		70-130	"	"	"
perfluoro-(1,2-13C2)decanesulfonateC13(2)-8:2 FTS	105			79.2%		70-130	"	"	"
perfluoro-(1,2-13C2)octanesulfonateC13(2)-6:2 FTS	126			96.3%		70-130	"	"	"
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:2 FTS	108			83.9%		70-130	"	"	"
M9PFNA	120			87.4%		70-130	"	"	"
M8PFOSA	123			89.2%		70-130	"	"	"
M8PFOS	124			94.2%		70-130	"	"	"
M8PFOA	119			86.3%		70-130	"	"	"
M7PFUnA	117			85.2%		70-130	"	"	"
M6PFDA	120			87.5%		70-130	"	"	"
M5PFPeA	130			94.8%		70-130	"	"	"
M5PFHxA	137			99.6%		70-130	"	"	"
M4PFHpA	124			90.3%		70-130	"	"	"
M3PFHxS	121			93.1%		70-130	"	"	"
M3PFBS	127			99.1%		70-130	"	"	"
M2PFTreA	82.9	Q		60.2%		70-130	"	"	"
MPFDoA	120			87.5%		70-130	"	"	"
MPFBA	134			97.3%		70-130	"	"	"



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

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Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-03-20190429-11 (1905002-17)

Matrix: Water

Sampled: Apr-29-19 08:50

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			43.2	ng/L	1	B19E001	May-01-19	May-02-19
perfluoropentanoate	U			43.2	"	"	"	"	"
perfluorohexanoate	34.9			8.65	"	"	"	"	"
perfluoroheptanoate	14.3			8.65	"	"	"	"	"
perfluorooctanoate	U			8.65	"	"	"	"	"
perfluorononanoate	U			8.65	"	"	"	"	"
perfluorodecanoate	U			8.65	"	"	"	"	"
perfluoroundecanoate	U			8.65	"	"	"	"	"
perfluorododecanoate	U			8.65	"	"	"	"	"
perfluorotridecanoate	U			8.65	"	"	"	"	"
perfluorotetradecanoate	U			8.65	"	"	"	"	"
perfluorobutyl sulfonate	9.77			8.65	"	"	"	"	"
perfluorohexyl sulfonate	14.2			8.65	"	"	"	"	"
perfluorooctyl sulfonate	49.3			8.65	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			8.65	"	"	"	"	"
perfluoro-1-pentanesulfonate (PFPeS)	U			8.65	"	"	"	"	"
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	463			8.65	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			8.65	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			8.65	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			8.65	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			8.65	"	"	"	"	"
N-MeFOSAA	U			8.65	"	"	"	"	"
N-EtFOSAA	U			8.65	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			8.65	"	"	"	"	"
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
D5-N-EtFOSAA	81.1	Q		69.4%		70-130	"	"	"
D3-N-MeFOSAA	85.0			72.9%		70-130	"	"	"
perfluoro- (1,2-13C2)decanesulfonateC13(2)-8:2 FTS	68.0	Q		60.2%		70-130	"	"	"
perfluoro- (1,2-13C2)octanesulfonateC13(2)-6:2 FTS	95.4			86.1%		70-130	"	"	"
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:2 FTS	71.6	Q		65.6%		70-130	"	"	"



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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
May-02-19 16:52

## Analysis by LC MS MS US EPA Region 5 Chicago Regional Laboratory

ITC-BB-03-20190429-11 (1905002-17)

Matrix: Water

Sampled: Apr-29-19 08:50

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
M9PFNA	90.4			77.5%		70-130	B19E001	May-01-19	May-02-19
M8PFOSA	92.2			79.0%		70-130	"	"	"
M8PFOS	94.1			84.2%		70-130	"	"	"
M8PFOA	90.0			77.1%		70-130	"	"	"
M7PFUnA	80.0	Q		68.5%		70-130	"	"	"
M6PFDA	86.5			74.1%		70-130	"	"	"
M5PFPeA	98.4			84.3%		70-130	"	"	"
M5PFHxA	109			93.4%		70-130	"	"	"
M4PFHpA	97.2			83.3%		70-130	"	"	"
M3PFHxS	97.0			87.8%		70-130	"	"	"
M3PFBS	104			96.2%		70-130	"	"	"
M2PFTreA	1.33	Q		1.14%		70-130	"	"	"
MPFDoA	67.5	Q		57.8%		70-130	"	"	"
MPFBA	117			100%		70-130	"	"	"

ITC-BB-05-20190426-11 (1905002-18)

Matrix: Water

Sampled: Apr-26-19 09:25

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			40.7	ng/L	1	B19E001	May-01-19	May-02-19
perfluoropentanoate	U			40.7	"	"	"	"	"
perfluorohexanoate	36.8			8.14	"	"	"	"	"
perfluoroheptanoate	14.9			8.14	"	"	"	"	"
perfluorooctanoate	9.11			8.14	"	"	"	"	"
perfluorononanoate	U			8.14	"	"	"	"	"
perfluorodecanoate	U			8.14	"	"	"	"	"
perfluoroundecanoate	U			8.14	"	"	"	"	"
perfluorododecanoate	U			8.14	"	"	"	"	"
perfluorotridecanoate	U			8.14	"	"	"	"	"
perfluorotetradecanoate	U			8.14	"	"	"	"	"
perfluorobutyl sulfonate	13.6			8.14	"	"	"	"	"
perfluorohexyl sulfonate	15.6			8.14	"	"	"	"	"
perfluorooctyl sulfonate	51.4			8.14	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			8.14	"	"	"	"	"



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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-05-20190426-11 (1905002-18)

Matrix: Water

Sampled: Apr-26-19 09:25

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluoro-1-pentanesulfonate (PFPeS)	U			8.14	ng/L	1	B19E001	May-01-19	May-02-19
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	469			8.14	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			8.14	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			8.14	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			8.14	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			8.14	"	"	"	"	"
N-MeFOSAA	U			8.14	"	"	"	"	"
N-EtFOSAA	U			8.14	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			8.14	"	"	"	"	"
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
D5-N-EtFOSAA	68.0	Q		67.6%		70-130	"	"	"
D3-N-MeFOSAA	68.8	Q		68.4%		70-130	"	"	"
perfluoro-(1,2-13C2)decanesulfonateC13(2)-8:2 FTS	59.2	Q		60.8%		70-130	"	"	"
perfluoro-(1,2-13C2)octanesulfonateC13(2)-6:2 FTS	84.1			88.1%		70-130	"	"	"
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:2 FTS	65.8	Q		69.9%		70-130	"	"	"
M9PFNA	75.0			74.6%		70-130	"	"	"
M8PFOSA	76.7			76.2%		70-130	"	"	"
M8PFOS	75.8			78.8%		70-130	"	"	"
M8PFOA	78.9			78.4%		70-130	"	"	"
M7PFUnA	63.5	Q		63.2%		70-130	"	"	"
M6PFDA	72.4			72.0%		70-130	"	"	"
M5PFPeA	91.1			90.6%		70-130	"	"	"
M5PFHxA	96.3			95.7%		70-130	"	"	"
M4PFHpA	87.0			86.5%		70-130	"	"	"
M3PFHxS	81.1			85.3%		70-130	"	"	"
M3PFBS	91.7			98.1%		70-130	"	"	"
M2PFTreA	0.00	Q		%		70-130	"	"	"
MPFDoA	42.0	Q		41.7%		70-130	"	"	"
MPFBA	106			105%		70-130	"	"	"





Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

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Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-05-20190427-11 (1905002-19)

Matrix: Water

Sampled: Apr-27-19 09:55

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			60.3	ng/L	1	B19E001	May-01-19	May-02-19
perfluoropentanoate	U			60.3	"	"	"	"	"
perfluorohexanoate	36.7			12.1	"	"	"	"	"
perfluoroheptanoate	17.0			12.1	"	"	"	"	"
perfluorooctanoate	14.7			12.1	"	"	"	"	"
perfluorononanoate	478			12.1	"	"	"	"	"
perfluorodecanoate	U			12.1	"	"	"	"	"
perfluoroundecanoate	20.6			12.1	"	"	"	"	"
perfluorododecanoate	U			12.1	"	"	"	"	"
perfluorotridecanoate	U			12.1	"	"	"	"	"
perfluorotetradecanoate	U			12.1	"	"	"	"	"
perfluorobutyl sulfonate	U			12.1	"	"	"	"	"
perfluorohexyl sulfonate	15.0			12.1	"	"	"	"	"
perfluorooctyl sulfonate	67.0			12.1	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			12.1	"	"	"	"	"
perfluoro-1-pentanesulfonate (PFPeS)	U			12.1	"	"	"	"	"
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	459			12.1	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			12.1	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			12.1	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			12.1	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			12.1	"	"	"	"	"
N-MeFOSAA	U			12.1	"	"	"	"	"
N-EtFOSAA	U			12.1	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			12.1	"	"	"	"	"
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
D5-N-EtFOSAA	189			83.5%		70-130	"	"	"
D3-N-MeFOSAA	187			82.8%		70-130	"	"	"
perfluoro- (1,2-13C2)decanesulfonateC13(2)-8:2 FTS	162			74.2%		70-130	"	"	"
perfluoro- (1,2-13C2)octanesulfonateC13(2)-6:2 FTS	179			83.7%		70-130	"	"	"
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:2 FTS	159			75.5%		70-130	"	"	"



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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
May-02-19 16:52

## Analysis by LC MS MS US EPA Region 5 Chicago Regional Laboratory

ITC-BB-05-20190427-11 (1905002-19)

Matrix: Water

Sampled: Apr-27-19 09:55

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
M9PFNA	179			79.3%		70-130	B19E001	May-01-19	May-02-19
M8PFOSA	191			84.8%		70-130	"	"	"
M8PFOS	192			89.0%		70-130	"	"	"
M8PFOA	182			80.7%		70-130	"	"	"
M7PFUnA	189			83.9%		70-130	"	"	"
M6PFDA	185			81.8%		70-130	"	"	"
M5PPPeA	116	Q		51.6%		70-130	"	"	"
M5PFHxA	147	Q		64.9%		70-130	"	"	"
M4PFHpA	206			91.3%		70-130	"	"	"
M3PFHxS	188			87.9%		70-130	"	"	"
M3PFBS	106	Q		50.5%		70-130	"	"	"
M2PFTreA	194			86.1%		70-130	"	"	"
MPFDoA	197			87.1%		70-130	"	"	"
MPFBA	162			71.8%		70-130	"	"	"

ITC-BB-05-20190428-11 (1905002-20)

Matrix: Water

Sampled: Apr-28-19 09:20

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluorobutanoate	U			43.0	ng/L	1	B19E001	May-01-19	May-02-19
perfluoropentanoate	U			43.0	"	"	"	"	"
perfluorohexanoate	33.0			8.60	"	"	"	"	"
perfluoroheptanoate	13.0			8.60	"	"	"	"	"
perfluorooctanoate	U			8.60	"	"	"	"	"
perfluorononanoate	U			8.60	"	"	"	"	"
perfluorodecanoate	U			8.60	"	"	"	"	"
perfluoroundecanoate	U			8.60	"	"	"	"	"
perfluorododecanoate	U			8.60	"	"	"	"	"
perfluorotridecanoate	U			8.60	"	"	"	"	"
perfluorotetradecanoate	U			8.60	"	"	"	"	"
perfluorobutyl sulfonate	9.88			8.60	"	"	"	"	"
perfluorohexyl sulfonate	12.7			8.60	"	"	"	"	"
perfluorooctyl sulfonate	42.5			8.60	"	"	"	"	"
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			8.60	"	"	"	"	"



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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS**  
**US EPA Region 5 Chicago Regional Laboratory**

ITC-BB-05-20190428-11 (1905002-20)

Matrix: Water

Sampled: Apr-28-19 09:20

Received: Apr-30-19 09:00

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
perfluoro-1-pentanesulfonate (PFPeS)	U			8.60	ng/L	1	B19E001	May-01-19	May-02-19
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	838			8.60	"	"	"	"	"
perfluoro-1-heptanesulfonate (PFHpS)	U			8.60	"	"	"	"	"
perfluoro-1-octanesulfonamide (FOSA)	U			8.60	"	"	"	"	"
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			8.60	"	"	"	"	"
perfluoro-1-nonanesulfonate (PFNS)	U			8.60	"	"	"	"	"
N-MeFOSAA	U			8.60	"	"	"	"	"
N-EtFOSAA	U			8.60	"	"	"	"	"
perfluoro-1-decanesulfonate (PFDS)	U			8.60	"	"	"	"	"
Surogate	Result			%REC		%REC Limits	Batch	Prepared	Analyzed
D5-N-EtFOSAA	84.2			73.2%		70-130	"	"	"
D3-N-MeFOSAA	82.2			71.4%		70-130	"	"	"
perfluoro-(1,2-13C2)decanesulfonateC13(2)-8:2 FTS	69.5	Q		62.3%		70-130	"	"	"
perfluoro-(1,2-13C2)octanesulfonateC13(2)-6:2 FTS	115			105%		70-130	"	"	"
perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:2 FTS	74.4	Q		69.1%		70-130	"	"	"
M9PFNA	88.9			77.2%		70-130	"	"	"
M8PFOSA	83.0			72.1%		70-130	"	"	"
M8PFOS	82.3			74.7%		70-130	"	"	"
M8PFOA	88.0			76.4%		70-130	"	"	"
M7PFUnA	78.2	Q		67.9%		70-130	"	"	"
M6PFDA	87.8			76.2%		70-130	"	"	"
M5PFPeA	95.1			82.6%		70-130	"	"	"
M5PFHxA	106			91.9%		70-130	"	"	"
M4PFHpA	94.8			82.3%		70-130	"	"	"
M3PFHxS	91.5			84.0%		70-130	"	"	"
M3PFBS	100			93.5%		70-130	"	"	"
M2PFTreA	1.25	Q		1.09%		70-130	"	"	"
MPFDoA	66.2	Q		57.5%		70-130	"	"	"
MPFBA	111			96.6%		70-130	"	"	"



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS - Quality Control**  
**US EPA Region 5 Chicago Regional Laboratory**

**Batch B19E001 - \*\*\* DEFAULT PREP \*\*\***

Blank (B19E001-BLK1)

Prepared & Analyzed: May-01-19

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
perfluorobutanoate	U			50.0	ng/L						
perfluoropentanoate	U			50.0	"						
perfluorohexanoate	U			10.0	"						
perfluoroheptanoate	U			10.0	"						
perfluorooctanoate	U			10.0	"						
perfluorononanoate	U			10.0	"						
perfluorodecanoate	U			10.0	"						
perfluoroundecanoate	U			10.0	"						
perfluorododecanoate	U			10.0	"						
perfluorotridecanoate	U			10.0	"						
perfluorotetradecanoate	U			10.0	"						
perfluorobutyl sulfonate	U			10.0	"						
perfluorohexyl sulfonate	U			10.0	"						
perfluorooctyl sulfonate	U			10.0	"						
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			10.0	"						
perfluoro-1-pentanesulfonate (PFPeS)	U			10.0	"						
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	U			10.0	"						
perfluoro-1-heptanesulfonate (PFHpS)	U			10.0	"						
perfluoro-1-octanesulfonamide (FOSA)	U			10.0	"						
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			10.0	"						
perfluoro-1-nonanesulfonate (PFNS)	U			10.0	"						
N-MeFOSAA	U			10.0	"						
N-EtFOSAA	U			10.0	"						
perfluoro-1-decanesulfonate (PFDS)	U			10.0	"						
Surrogate: D5-N-EtFOSAA	142				"	160.0		88.6%	70-130		
Surrogate: D3-N-MeFOSAA	136				"	160.0		85.1%	70-130		
Surrogate: perfluoro- (1,2-13C2)decanesulfonateC13(2)-8:2 FTS	123				"	154.9		79.6%	70-130		
Surrogate: perfluoro- (1,2-13C2)octanesulfonateC13(2)-6:2 FTS	123				"	151.8		80.9%	70-130		



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

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Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
May-02-19 16:52

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B19E001 - \*\*\* DEFAULT PREP \*\*\*

#### Blank (B19E001-BLK1)

Prepared & Analyzed: May-01-19

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate: perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:	122				ng/L	149.6		81.5%	70-130		
Surrogate: M9PFNA	135				"	160.0		84.2%	70-130		
Surrogate: M8PFOSA	139				"	160.0		86.9%	70-130		
Surrogate: M8PFOS	132				"	153.1		86.1%	70-130		
Surrogate: M8PFOA	132				"	160.0		82.3%	70-130		
Surrogate: M7PFUnA	133				"	160.0		82.9%	70-130		
Surrogate: M6PFDA	137				"	160.0		85.6%	70-130		
Surrogate: M5PFPeA	137				"	160.0		85.6%	70-130		
Surrogate: M5PFHxA	143				"	160.0		89.4%	70-130		
Surrogate: M4PFHpA	135				"	160.0		84.1%	70-130		
Surrogate: M3PFHxS	129				"	151.4		85.5%	70-130		
Surrogate: M3PFBS	121				"	148.6		81.7%	70-130		
Surrogate: M2PFTreA	125				"	160.0		77.8%	70-130		
Surrogate: MPFDoA	133				"	160.0		83.0%	70-130		
Surrogate: MPFBA	140				"	160.0		87.3%	70-130		

#### Blank (B19E001-BLK2)

Prepared & Analyzed: May-01-19

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
perfluorobutanoate	U			50.0	ng/L						
perfluoropentanoate	U			50.0	"						
perfluorohexanoate	U			10.0	"						
perfluoroheptanoate	U			10.0	"						
perfluorooctanoate	U			10.0	"						
perfluorononanoate	U			10.0	"						
perfluorodecanoate	U			10.0	"						
perfluoroundecanoate	U			10.0	"						
perfluorododecanoate	U			10.0	"						
perfluorotridecanoate	U			10.0	"						
perfluorotetradecanoate	U			10.0	"						
perfluorobutyl sulfonate	U			10.0	"						
perfluorohexyl sulfonate	U			10.0	"						
perfluorooctyl sulfonate	U			10.0	"						



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

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Region 6, US EPA  
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Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
May-02-19 16:52

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B19E001 - \*\*\* DEFAULT PREP \*\*\*

Blank (B19E001-BLK2)

Prepared & Analyzed: May-01-19

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	U			10.0	ng/L						
perfluoro-1-pentanesulfonate (PFPeS)	U			10.0	"						
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	U			10.0	"						
perfluoro-1-heptanesulfonate (PFHpS)	U			10.0	"						
perfluoro-1-octanesulfonamide (FOSA)	U			10.0	"						
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	U			10.0	"						
perfluoro-1-nonanesulfonate (PFNS)	U			10.0	"						
N-MeFOSAA	U			10.0	"						
N-EtFOSAA	U			10.0	"						
perfluoro-1-decanesulfonate (PFDS)	U			10.0	"						
Surrogate: D5-N-EtFOSAA	148				"	160.0		92.5%	70-130		
Surrogate: D3-N-MeFOSAA	141				"	160.0		87.9%	70-130		
Surrogate: perfluoro- (1,2-13C2)decanesulfonateC13(2)-8:2 FTS	130				"	154.9		84.1%	70-130		
Surrogate: perfluoro- (1,2-13C2)octanesulfonateC13(2)-6:2 FTS	128				"	151.8		84.3%	70-130		
Surrogate: perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:	125				"	149.6		83.3%	70-130		
Surrogate: M9PFNA	133				"	160.0		83.4%	70-130		
Surrogate: M8PFOSA	138				"	160.0		86.3%	70-130		
Surrogate: M8PFOS	139				"	153.1		90.8%	70-130		
Surrogate: M8PFOA	135				"	160.0		84.6%	70-130		
Surrogate: M7PFUnA	137				"	160.0		85.7%	70-130		
Surrogate: M6PFDA	137				"	160.0		85.9%	70-130		
Surrogate: M5PFPeA	134				"	160.0		83.9%	70-130		
Surrogate: M5PFHxA	143				"	160.0		89.2%	70-130		
Surrogate: M4PFHpA	137				"	160.0		85.5%	70-130		
Surrogate: M3PFHxS	132				"	151.4		87.2%	70-130		
Surrogate: M3PFBS	125				"	148.6		83.9%	70-130		
Surrogate: M2PFTreA	135				"	160.0		84.2%	70-130		
Surrogate: MPFDoA	139				"	160.0		86.8%	70-130		
Surrogate: MPFBA	140				"	160.0		87.4%	70-130		



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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
May-02-19 16:52

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B19E001 - \*\*\* DEFAULT PREP \*\*\*

LCS (B19E001-BS1)

Prepared: May-01-19 Analyzed: May-02-19

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
perfluorobutanoate	676			50.0	ng/L	800.0		84.5%	70-130		
perfluoropentanoate	640			50.0	"	800.0		80.0%	70-130		
perfluorohexanoate	135			10.0	"	160.0		84.7%	70-130		
perfluoroheptanoate	133			10.0	"	160.0		83.3%	70-130		
perfluorooctanoate	131			10.0	"	160.0		81.9%	70-130		
perfluorononanoate	133			10.0	"	160.0		83.2%	70-130		
perfluorodecanoate	134			10.0	"	160.0		83.8%	70-130		
perfluoroundecanoate	133			10.0	"	160.0		83.4%	70-130		
perfluorododecanoate	135			10.0	"	160.0		84.6%	70-130		
perfluorotridecanoate	135			10.0	"	160.0		84.6%	70-130		
perfluorotetradecanoate	133			10.0	"	160.0		83.3%	70-130		
perfluorobutyl sulfonate	134			10.0	"	160.0		84.0%	70-130		
perfluorohexyl sulfonate	126			10.0	"	160.0		78.9%	70-130		
perfluorooctyl sulfonate	140			10.0	"	160.0		87.3%	70-130		
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	141			10.0	"	160.0		88.3%	70-130		
perfluoro-1-pentanesulfonate (PFPeS)	142			10.0	"	160.0		88.9%	70-130		
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	113			10.0	"	160.0		70.8%	70-130		
perfluoro-1-heptanesulfonate (PFHpS)	141			10.0	"	160.0		88.1%	70-130		
perfluoro-1-octanesulfonamide (FOSA)	142			10.0	"	160.0		88.5%	70-130		
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	147			10.0	"	160.0		92.1%	70-130		
perfluoro-1-nonanesulfonate (PFNS)	140			10.0	"	160.0		87.8%	70-130		
N-MeFOSAA	142			10.0	"	160.0		88.7%	70-130		
N-EtFOSAA	143			10.0	"	160.0		89.3%	70-130		
perfluoro-1-decanesulfonate (PFDS)	143			10.0	"	160.0		89.1%	70-130		
Surrogate: D5-N-EtFOSAA	144				"	160.0		90.2%	70-130		
Surrogate: D3-N-MeFOSAA	141				"	160.0		87.8%	70-130		
Surrogate: perfluoro- (1,2-13C2)decanesulfonateC13(2)-8:2 FTS	135				"	154.9		87.2%	70-130		
Surrogate: perfluoro- (1,2-13C2)octanesulfonateC13(2)-6:2 FTS	136				"	151.8		89.4%	70-130		



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

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Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
May-02-19 16:52

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B19E001 - \*\*\* DEFAULT PREP \*\*\*

#### LCS (B19E001-BS1)

Prepared: May-01-19 Analyzed: May-02-19

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate: perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:	130				ng/L	149.6		87.2%	70-130		
Surrogate: M9PFNA	139				"	160.0		86.6%	70-130		
Surrogate: M8PFOSA	143				"	160.0		89.1%	70-130		
Surrogate: M8PFOS	136				"	153.1		88.9%	70-130		
Surrogate: M8PFOA	137				"	160.0		85.7%	70-130		
Surrogate: M7PFUnA	139				"	160.0		86.6%	70-130		
Surrogate: M6PFDA	138				"	160.0		86.5%	70-130		
Surrogate: M5PFPeA	136				"	160.0		85.1%	70-130		
Surrogate: M5PFHxA	146				"	160.0		91.4%	70-130		
Surrogate: M4PFHpA	139				"	160.0		86.6%	70-130		
Surrogate: M3PFHxS	134				"	151.4		88.7%	70-130		
Surrogate: M3PFBS	126				"	148.6		84.5%	70-130		
Surrogate: M2PFTreA	137				"	160.0		85.5%	70-130		
Surrogate: MPFDoA	142				"	160.0		88.7%	70-130		
Surrogate: MPFBA	143				"	160.0		89.5%	70-130		

#### LCS Dup (B19E001-BSD1)

Prepared: May-01-19 Analyzed: May-02-19

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
perfluorobutanoate	697			50.0	ng/L	800.0		87.1%	70-130	3.04	30
perfluoropentanoate	671			50.0	"	800.0		83.9%	70-130	4.73	30
perfluorohexanoate	141			10.0	"	160.0		88.2%	70-130	4.13	30
perfluoroheptanoate	143			10.0	"	160.0		89.1%	70-130	6.65	30
perfluorooctanoate	134			10.0	"	160.0		83.6%	70-130	2.15	30
perfluorononanoate	137			10.0	"	160.0		85.6%	70-130	2.75	30
perfluorodecanoate	142			10.0	"	160.0		88.6%	70-130	5.54	30
perfluoroundecanoate	141			10.0	"	160.0		88.1%	70-130	5.47	30
perfluorododecanoate	137			10.0	"	160.0		85.8%	70-130	1.39	30
perfluorotridecanoate	145			10.0	"	160.0		90.5%	70-130	6.65	30
perfluorotetradecanoate	143			10.0	"	160.0		89.1%	70-130	6.69	30
perfluorobutyl sulfonate	144			10.0	"	160.0		90.1%	70-130	6.99	30
perfluorohexyl sulfonate	134			10.0	"	160.0		83.8%	70-130	5.93	30
perfluorooctyl sulfonate	140			10.0	"	160.0		87.3%	70-130	0.0732	30





# Environmental Protection Agency Region 5 Chicago Regional Laboratory

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Region 6, US EPA  
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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
May-02-19 16:52

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B19E001 - \*\*\* DEFAULT PREP \*\*\*

LCS Dup (B19E001-BSD1)

Prepared: May-01-19 Analyzed: May-02-19

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	145			10.0	ng/L	160.0		90.4%	70-130	2.37	30
perfluoro-1-pentanesulfonate (PFPeS)	148			10.0	"	160.0		92.8%	70-130	4.27	30
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	120			10.0	"	160.0		75.3%	70-130	6.18	30
perfluoro-1-heptanesulfonate (PFHpS)	149			10.0	"	160.0		93.2%	70-130	5.58	30
perfluoro-1-octanesulfonamide (FOSA)	144			10.0	"	160.0		90.1%	70-130	1.80	30
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	146			10.0	"	160.0		91.2%	70-130	0.923	30
perfluoro-1-nonanesulfonate (PFNS)	145			10.0	"	160.0		90.5%	70-130	3.09	30
N-MeFOSAA	150			10.0	"	160.0		93.6%	70-130	5.43	30
N-EtFOSAA	159			10.0	"	160.0		99.6%	70-130	10.9	30
perfluoro-1-decanesulfonate (PFDS)	145			10.0	"	160.0		90.8%	70-130	1.91	30
Surrogate: D5-N-EtFOSAA	141				"	160.0		87.9%	70-130		
Surrogate: D3-N-MeFOSAA	139				"	160.0		86.7%	70-130		
Surrogate: perfluoro- (1,2-13C2)decanesulfonateC13(2)-8:2 FTS	135				"	154.9		87.1%	70-130		
Surrogate: perfluoro- (1,2-13C2)octanesulfonateC13(2)-6:2 FTS	126				"	151.8		83.3%	70-130		
Surrogate: perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:	127				"	149.6		85.2%	70-130		
Surrogate: M9PFNA	132				"	160.0		82.8%	70-130		
Surrogate: M8PFOSA	130				"	160.0		81.4%	70-130		
Surrogate: M8PFOS	131				"	153.1		85.3%	70-130		
Surrogate: M8PFOA	131				"	160.0		81.9%	70-130		
Surrogate: M7PFUnA	133				"	160.0		83.1%	70-130		
Surrogate: M6PFDA	134				"	160.0		83.7%	70-130		
Surrogate: M5PFPeA	127				"	160.0		79.5%	70-130		
Surrogate: M5PFHxA	141				"	160.0		87.8%	70-130		
Surrogate: M4PFHpA	133				"	160.0		83.3%	70-130		
Surrogate: M3PFHxS	128				"	151.4		84.8%	70-130		
Surrogate: M3PFBS	120				"	148.6		80.8%	70-130		
Surrogate: M2PFTreA	133				"	160.0		83.0%	70-130		
Surrogate: MPFDoA	133				"	160.0		83.2%	70-130		
Surrogate: MPFBA	135				"	160.0		84.6%	70-130		



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS - Quality Control**  
**US EPA Region 5 Chicago Regional Laboratory**

**Batch B19E001 - \*\*\* DEFAULT PREP \*\*\***

Duplicate (B19E001-DUP1)		Source: 1905002-18		Prepared: May-01-19		Analyzed: May-02-19					
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
perfluorobutanoate	20.4			41.6	ng/L		26.6			26.4	30
perfluoropentanoate	34.3			41.6	"		39.4			13.8	30
perfluorohexanoate	40.1			8.32	"		36.8			8.64	30
perfluoroheptanoate	15.2			8.32	"		14.9			2.09	30
perfluorooctanoate	8.81			8.32	"		9.11			3.27	30
perfluorononanoate	1.88			8.32	"		1.83			2.33	30
perfluorodecanoate	1.37			8.32	"		U				30
perfluoroundecanoate	U			8.32	"		U				30
perfluorododecanoate	U			8.32	"		U				30
perfluorotridecanoate	U			8.32	"		U				30
perfluorotetradecanoate	U			8.32	"		U				30
perfluorobutyl sulfonate	13.0			8.32	"		13.6			4.61	30
perfluorohexyl sulfonate	16.6			8.32	"		15.6			6.32	30
perfluorooctyl sulfonate	55.5			8.32	"		51.4			7.67	30
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	3.38			8.32	"		2.68			23.2	30
perfluoro-1-pentanesulfonate (PFPeS)	3.84			8.32	"		3.13			20.5	30
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	483			8.32	"		469			2.89	30
perfluoro-1-heptanesulfonate (PFHpS)	U			8.32	"		U				30
perfluoro-1-octanesulfonamide (FOSA)	1.76			8.32	"		1.56			12.1	30
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	4.42			8.32	"		4.07			8.31	30
perfluoro-1-nonanesulfonate (PFNS)	U			8.32	"		U				30
N-MeFOSAA	1.78			8.32	"		1.69			5.08	30
N-EtFOSAA	U			8.32	"		U				30
perfluoro-1-decanesulfonate (PFDS)	U			8.32	"		U				30
Surrogate: D5-N-EtFOSAA	76.5				"	106.2		72.0%	70-130		
Surrogate: D3-N-MeFOSAA	74.4				"	106.2		70.0%	70-130		
Surrogate: perfluoro- (1,2-13C2)decanesulfonateC13(2)-8:2 FTS	64.3	Q			"	102.8		62.5%	70-130		
Surrogate: perfluoro- (1,2-13C2)octanesulfonateC13(2)-6:2 FTS	90.7				"	100.8		89.9%	70-130		



# Environmental Protection Agency Region 5 Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
May-02-19 16:52

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B19E001 - \*\*\* DEFAULT PREP \*\*\*

Duplicate (B19E001-DUP1)		Source: 1905002-18		Prepared: May-01-19 Analyzed: May-02-19							
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate: <i>perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:</i>	68.5	Q			ng/L	99.34		69.0%	70-130		
Surrogate: M9PFNA	80.3				"	106.2		75.6%	70-130		
Surrogate: M8PFOSA	81.7				"	106.2		76.9%	70-130		
Surrogate: M8PFOS	80.6				"	101.7		79.3%	70-130		
Surrogate: M8PFOA	81.6				"	106.2		76.8%	70-130		
Surrogate: M7PFUnA	72.4	Q			"	106.2		68.1%	70-130		
Surrogate: M6PFDA	78.8				"	106.2		74.2%	70-130		
Surrogate: M5PFPeA	95.7				"	106.2		90.0%	70-130		
Surrogate: M5PFHxA	101				"	106.2		95.4%	70-130		
Surrogate: M4PFHpA	95.5				"	106.2		89.9%	70-130		
Surrogate: M3PFHxS	90.3				"	100.5		89.8%	70-130		
Surrogate: M3PFBS	95.2				"	98.70		96.5%	70-130		
Surrogate: M2PFTreA	0.00	Q			"	106.2		%	70-130		
Surrogate: MPFDoA	54.4	Q			"	106.2		51.2%	70-130		
Surrogate: MPFBA	109				"	106.2		103%	70-130		

### MRL Check (B19E001-MRL1) Prepared: May-01-19 Analyzed: May-02-19

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
perfluorobutanoate	52.9			50.0	ng/L	50.00		106%	50-150		
perfluoropentanoate	48.9			50.0	"	50.00		97.9%	50-150		
perfluorohexanoate	10.3			10.0	"	10.00		103%	50-150		
perfluoroheptanoate	10.1			10.0	"	10.00		101%	50-150		
perfluorooctanoate	9.19			10.0	"	10.00		91.9%	50-150		
perfluorononanoate	8.55			10.0	"	10.00		85.5%	50-150		
perfluorodecanoate	8.69			10.0	"	10.00		86.9%	50-150		
perfluoroundecanoate	7.64			10.0	"	10.00		76.4%	50-150		
perfluorododecanoate	9.38			10.0	"	10.00		93.8%	50-150		
perfluorotridecanoate	8.25			10.0	"	10.00		82.5%	50-150		
perfluorotetradecanoate	8.47			10.0	"	10.00		84.7%	50-150		
perfluorobutyl sulfonate	11.2			10.0	"	10.00		112%	50-150		
perfluorohexyl sulfonate	9.00			10.0	"	10.00		90.0%	50-150		
perfluorooctyl sulfonate	9.08			10.0	"	10.00		90.8%	50-150		



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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
May-02-19 16:52

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B19E001 - \*\*\* DEFAULT PREP \*\*\*

MRL Check (B19E001-MRL1)

Prepared: May-01-19 Analyzed: May-02-19

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	8.73			10.0	ng/L	10.00		87.3%	50-150		
perfluoro-1-pentanesulfonate (PFPeS)	8.44			10.0	"	10.00		84.4%	50-150		
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	U	Q		10.0	"	10.00		%	50-150		
perfluoro-1-heptanesulfonate (PFHpS)	8.82			10.0	"	10.00		88.2%	50-150		
perfluoro-1-octanesulfonamide (FOSA)	8.03			10.0	"	10.00		80.3%	50-150		
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	8.37			10.0	"	10.00		83.7%	50-150		
perfluoro-1-nonanesulfonate (PFNS)	8.98			10.0	"	10.00		89.8%	50-150		
N-MeFOSAA	10.0			10.0	"	10.00		100%	50-150		
N-EtFOSAA	9.65			10.0	"	10.00		96.5%	50-150		
perfluoro-1-decanesulfonate (PFDS)	9.16			10.0	"	10.00		91.6%	50-150		
Surrogate: D5-N-EtFOSAA	142				"	160.0		88.4%	70-130		
Surrogate: D3-N-MeFOSAA	141				"	160.0		88.1%	70-130		
Surrogate: perfluoro- (1,2-13C2)decanesulfonateC13(2)-8:2 FTS	127				"	154.9		82.0%	70-130		
Surrogate: perfluoro- (1,2-13C2)octanesulfonateC13(2)-6:2 FTS	129				"	151.8		84.7%	70-130		
Surrogate: perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:	127				"	149.6		85.0%	70-130		
Surrogate: M9PFNA	139				"	160.0		87.1%	70-130		
Surrogate: M8PFOSA	142				"	160.0		88.7%	70-130		
Surrogate: M8PFOS	135				"	153.1		88.5%	70-130		
Surrogate: M8PFOA	134				"	160.0		83.7%	70-130		
Surrogate: M7PFUnA	136				"	160.0		85.1%	70-130		
Surrogate: M6PFDA	139				"	160.0		86.9%	70-130		
Surrogate: M5PFPeA	137				"	160.0		85.4%	70-130		
Surrogate: M5PFHxA	146				"	160.0		91.3%	70-130		
Surrogate: M4PFHpA	140				"	160.0		87.7%	70-130		
Surrogate: M3PFHxS	131				"	151.4		86.5%	70-130		
Surrogate: M3PFBS	131				"	148.6		87.8%	70-130		
Surrogate: M2PFTreA	136				"	160.0		85.1%	70-130		
Surrogate: MPFDoA	138				"	160.0		86.5%	70-130		
Surrogate: MPFBA	140				"	160.0		87.4%	70-130		



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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
May-02-19 16:52

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B19E001 - \*\*\* DEFAULT PREP \*\*\*

MRL Check (B19E001-MRL2)

Prepared: May-01-19 Analyzed: May-02-19

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
perfluorobutanoate	55.1			50.0	ng/L	50.00		110%	50-150		
perfluoropentanoate	55.0			50.0	"	50.00		110%	50-150		
perfluorohexanoate	11.6			10.0	"	10.00		116%	50-150		
perfluoroheptanoate	10.3			10.0	"	10.00		103%	50-150		
perfluorooctanoate	9.92			10.0	"	10.00		99.2%	50-150		
perfluorononanoate	8.67			10.0	"	10.00		86.7%	50-150		
perfluorodecanoate	8.77			10.0	"	10.00		87.7%	50-150		
perfluoroundecanoate	9.01			10.0	"	10.00		90.1%	50-150		
perfluorododecanoate	11.5			10.0	"	10.00		115%	50-150		
perfluorotridecanoate	9.88			10.0	"	10.00		98.8%	50-150		
perfluorotetradecanoate	9.33			10.0	"	10.00		93.3%	50-150		
perfluorobutyl sulfonate	12.7			10.0	"	10.00		127%	50-150		
perfluorohexyl sulfonate	10.2			10.0	"	10.00		102%	50-150		
perfluorooctyl sulfonate	9.92			10.0	"	10.00		99.2%	50-150		
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	9.56			10.0	"	10.00		95.6%	50-150		
perfluoro-1-pentanesulfonate (PFPeS)	9.72			10.0	"	10.00		97.2%	50-150		
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	U	Q		10.0	"	10.00		%	50-150		
perfluoro-1-heptanesulfonate (PFHpS)	10.3			10.0	"	10.00		103%	50-150		
perfluoro-1-octanesulfonamide (FOSA)	10.6			10.0	"	10.00		106%	50-150		
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	9.67			10.0	"	10.00		96.7%	50-150		
perfluoro-1-nonanesulfonate (PFNS)	9.17			10.0	"	10.00		91.7%	50-150		
N-MeFOSAA	11.7			10.0	"	10.00		117%	50-150		
N-EtFOSAA	10.8			10.0	"	10.00		108%	50-150		
perfluoro-1-decanesulfonate (PFDS)	9.57			10.0	"	10.00		95.7%	50-150		
Surrogate: D5-N-EtFOSAA	144				"	160.0		90.2%	70-130		
Surrogate: D3-N-MeFOSAA	143				"	160.0		89.2%	70-130		
Surrogate: perfluoro- (1,2-13C2)decanesulfonateC13(2)-8:2 FTS	128				"	154.9		82.6%	70-130		
Surrogate: perfluoro- (1,2-13C2)octanesulfonateC13(2)-6:2 FTS	126				"	151.8		83.1%	70-130		



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS - Quality Control**  
**US EPA Region 5 Chicago Regional Laboratory**

**Batch B19E001 - \*\*\* DEFAULT PREP \*\*\***

**MRL Check (B19E001-MRL2)**

Prepared: May-01-19 Analyzed: May-02-19

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate: perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:	127				ng/L	149.6		84.9%	70-130		
Surrogate: M9PFNA	138				"	160.0		86.1%	70-130		
Surrogate: M8PFOSA	133				"	160.0		83.0%	70-130		
Surrogate: M8PFOS	135				"	153.1		87.9%	70-130		
Surrogate: M8PFOA	132				"	160.0		82.4%	70-130		
Surrogate: M7PFUnA	138				"	160.0		86.0%	70-130		
Surrogate: M6PFDA	137				"	160.0		85.6%	70-130		
Surrogate: M5PFPeA	138				"	160.0		86.1%	70-130		
Surrogate: M5PFHxA	147				"	160.0		91.8%	70-130		
Surrogate: M4PFHpA	139				"	160.0		86.7%	70-130		
Surrogate: M3PFHxS	133				"	151.4		87.7%	70-130		
Surrogate: M3PFBS	122				"	148.6		82.2%	70-130		
Surrogate: M2PFTreA	134				"	160.0		83.7%	70-130		
Surrogate: MPFDoA	139				"	160.0		87.1%	70-130		
Surrogate: MPFBA	140				"	160.0		87.7%	70-130		

**Matrix Spike (B19E001-MS1)**

Source: 1905002-18

Prepared: May-01-19 Analyzed: May-02-19

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
perfluorobutanoate	682			44.7	ng/L	630.2	26.6	104%	70-130		
perfluoropentanoate	625			44.7	"	630.2	39.4	93.0%	70-130		
perfluorohexanoate	162			8.94	"	126.0	36.8	99.4%	70-130		
perfluoroheptanoate	134			8.94	"	126.0	14.9	94.7%	70-130		
perfluorooctanoate	115			8.94	"	126.0	9.11	84.2%	70-130		
perfluorononanoate	107			8.94	"	126.0	1.83	83.1%	70-130		
perfluorodecanoate	103			8.94	"	126.0	U	81.7%	70-130		
perfluoroundecanoate	101			8.94	"	126.0	U	80.5%	70-130		
perfluorododecanoate	94.6			8.94	"	126.0	U	75.1%	70-130		
perfluorotridecanoate	75.2	Q		8.94	"	126.0	U	59.7%	70-130		
perfluorotetradecanoate	27.2	Q		8.94	"	126.0	U	21.6%	70-130		
perfluorobutyl sulfonate	145			8.94	"	126.0	13.6	104%	70-130		
perfluorohexyl sulfonate	130			8.94	"	126.0	15.6	90.5%	70-130		
perfluorooctyl sulfonate	175			8.94	"	126.0	51.4	98.0%	70-130		



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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
May-02-19 16:52

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B19E001 - \*\*\* DEFAULT PREP \*\*\*

Matrix Spike (B19E001-MS1)		Source: 1905002-18		Prepared: May-01-19 Analyzed: May-02-19							
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	105			8.94	ng/L	126.0	2.68	81.5%	70-130		
perfluoro-1-pentanesulfonate (PFPeS)	132			8.94	"	126.0	3.13	102%	70-130		
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	680	Q		8.94	"	126.0	469	167%	70-130		
perfluoro-1-heptanesulfonate (PFHpS)	119			8.94	"	126.0	U	94.4%	70-130		
perfluoro-1-octanesulfonamide (FOSA)	111			8.94	"	126.0	1.56	86.5%	70-130		
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	109			8.94	"	126.0	4.07	83.3%	70-130		
perfluoro-1-nonanesulfonate (PFNS)	109			8.94	"	126.0	U	86.2%	70-130		
N-MeFOSAA	102			8.94	"	126.0	U	81.2%	70-130		
N-EtFOSAA	103			8.94	"	126.0	U	81.5%	70-130		
perfluoro-1-decanesulfonate (PFDS)	101			8.94	"	126.0	U	80.0%	70-130		
Surrogate: D5-N-EtFOSAA	95.4				"	126.0		75.7%	70-130		
Surrogate: D3-N-MeFOSAA	93.9				"	126.0		74.5%	70-130		
Surrogate: perfluoro-(1,2-13C2)decanesulfonateC13(2)-8:2 FTS	88.7				"	122.0		72.7%	70-130		
Surrogate: perfluoro-(1,2-13C2)octanesulfonateC13(2)-6:2 FTS	118				"	119.6		98.5%	70-130		
Surrogate: perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:	90.3				"	117.9		76.6%	70-130		
Surrogate: M9PFNA	98.6				"	126.0		78.2%	70-130		
Surrogate: M8PFOSA	102				"	126.0		81.3%	70-130		
Surrogate: M8PFOS	107				"	120.6		88.3%	70-130		
Surrogate: M8PFOA	103				"	126.0		81.9%	70-130		
Surrogate: M7PFUnA	95.3				"	126.0		75.6%	70-130		
Surrogate: M6PFDA	99.2				"	126.0		78.7%	70-130		
Surrogate: M5PFPeA	116				"	126.0		92.4%	70-130		
Surrogate: M5PFHxA	121				"	126.0		96.2%	70-130		
Surrogate: M4PFHpA	114				"	126.0		90.2%	70-130		
Surrogate: M3PFHxS	108				"	119.2		90.2%	70-130		
Surrogate: M3PFBS	122				"	117.1		104%	70-130		
Surrogate: M2PFTreA	23.9	Q			"	126.0		19.0%	70-130		
Surrogate: MPFDoA	91.0				"	126.0		72.2%	70-130		
Surrogate: MPFBA	128				"	126.0		102%	70-130		



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Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

Reported:  
May-02-19 16:52

## Analysis by LC MS MS - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B19E001 - \*\*\* DEFAULT PREP \*\*\*

Matrix Spike Dup (B19E001-MSD1)		Source: 1905002-18		Prepared: May-01-19 Analyzed: May-02-19							
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
perfluorobutanoate	618			42.7	ng/L	567.4	26.6	104%	70-130	9.93	30
perfluoropentanoate	567			42.7	"	567.4	39.4	93.0%	70-130	9.78	30
perfluorohexanoate	150			8.55	"	113.5	36.8	100%	70-130	7.49	30
perfluoroheptanoate	120			8.55	"	113.5	14.9	92.6%	70-130	11.3	30
perfluorooctanoate	104			8.55	"	113.5	9.11	83.7%	70-130	10.3	30
perfluorononanoate	93.4			8.55	"	113.5	1.83	80.7%	70-130	13.2	30
perfluorodecanoate	92.3			8.55	"	113.5	U	81.4%	70-130	10.9	30
perfluoroundecanoate	83.5			8.55	"	113.5	U	73.6%	70-130	19.4	30
perfluorododecanoate	71.1	Q		8.55	"	113.5	U	62.7%	70-130	28.3	30
perfluorotridecanoate	38.0	Q		8.55	"	113.5	U	33.4%	70-130	65.8	30
perfluorotetradecanoate	1.60	Q		8.55	"	113.5	U	1.41%	70-130	178	30
perfluorobutyl sulfonate	130			8.55	"	113.5	13.6	102%	70-130	11.2	30
perfluorohexyl sulfonate	118			8.55	"	113.5	15.6	90.5%	70-130	9.16	30
perfluorooctyl sulfonate	156			8.55	"	113.5	51.4	92.5%	70-130	11.1	30
1H,1H,2H,2H-perfluorohexane sulfonate (4:2 FTS)	94.5			8.55	"	113.5	2.68	80.9%	70-130	11.0	30
perfluoro-1-pentanesulfonate (PFPeS)	116			8.55	"	113.5	3.13	99.6%	70-130	12.7	30
1H,1H,2H,2H-perfluorooctane sulfonate (6:2 FTS)	535	Q		8.55	"	113.5	469	57.9%	70-130	23.9	30
perfluoro-1-heptanesulfonate (PFHpS)	106			8.55	"	113.5	U	93.7%	70-130	11.2	30
perfluoro-1-octanesulfonamide (FOSA)	96.2			8.55	"	113.5	1.56	83.4%	70-130	13.9	30
1H,1H,2H,2H-perfluorodecane sulfonate (8:2 FTS)	91.6			8.55	"	113.5	4.07	77.1%	70-130	17.4	30
perfluoro-1-nonanesulfonate (PFNS)	91.1			8.55	"	113.5	U	80.3%	70-130	17.6	30
N-MeFOSAA	87.2			8.55	"	113.5	1.69	75.4%	70-130	15.9	30
N-EtFOSAA	83.1			8.55	"	113.5	U	73.3%	70-130	21.1	30
perfluoro-1-decanesulfonate (PFDS)	74.0	Q		8.55	"	113.5	U	65.3%	70-130	30.6	30
Surrogate: D5-N-EtFOSAA	80.5				"	113.5		71.0%	70-130		
Surrogate: D3-N-MeFOSAA	79.6				"	113.5		70.1%	70-130		
Surrogate: perfluoro- (1,2-13C2)decanesulfonateC13(2)-8:2 FTS	74.3	Q			"	109.8		67.6%	70-130		
Surrogate: perfluoro- (1,2-13C2)octanesulfonateC13(2)-6:2 FTS	101				"	107.7		93.6%	70-130		





Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

536 South Clark Street, Chicago, IL 60605  
Phone:(312)353-8370 Fax:(312)886-2591

Region 6, US EPA  
10625 Fallstone Road  
Houston TX, 77099

Project: R06 Deer Park PFAS  
Project Number: [none]  
Project Manager: Matthew Loesel

**Reported:**  
May-02-19 16:52

**Analysis by LC MS MS - Quality Control**  
**US EPA Region 5 Chicago Regional Laboratory**

**Batch B19E001 - \*\*\* DEFAULT PREP \*\*\***

Matrix Spike Dup (B19E001-MSD1)

Source: 1905002-18

Prepared: May-01-19 Analyzed: May-02-19

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Surrogate: perfluoro(1,2-13C2)hexanesulfonateC13(2)-4:	78.7				ng/L	106.1		74.1%	70-130		
Surrogate: M9PFNA	86.5				"	113.5		76.2%	70-130		
Surrogate: M8PFOSA	89.6				"	113.5		79.0%	70-130		
Surrogate: M8PFOS	90.6				"	108.6		83.4%	70-130		
Surrogate: M8PFOA	91.8				"	113.5		80.9%	70-130		
Surrogate: M7PFUnA	78.5	Q			"	113.5		69.2%	70-130		
Surrogate: M6PFDA	85.0				"	113.5		74.9%	70-130		
Surrogate: M5PFPeA	104				"	113.5		91.3%	70-130		
Surrogate: M5PFHxA	109				"	113.5		96.0%	70-130		
Surrogate: M4PFHpA	98.6				"	113.5		86.9%	70-130		
Surrogate: M3PFHxS	96.5				"	107.3		89.9%	70-130		
Surrogate: M3PFBS	107				"	105.4		101%	70-130		
Surrogate: M2PFTreA	1.82	Q			"	113.5		1.60%	70-130		
Surrogate: MPFDoA	68.7	Q			"	113.5		60.5%	70-130		
Surrogate: MPFBA	114				"	113.5		101%	70-130		



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**Notes and Definitions**

U Not Detected  
NR Not Reported  
Q QC limit Exceeded